

STATE PLAN FOR
VOCATIONAL-TECHNICAL
EDUCATION
IN
MASSACHUSETTS

FISCAL YEARS 1992-1994

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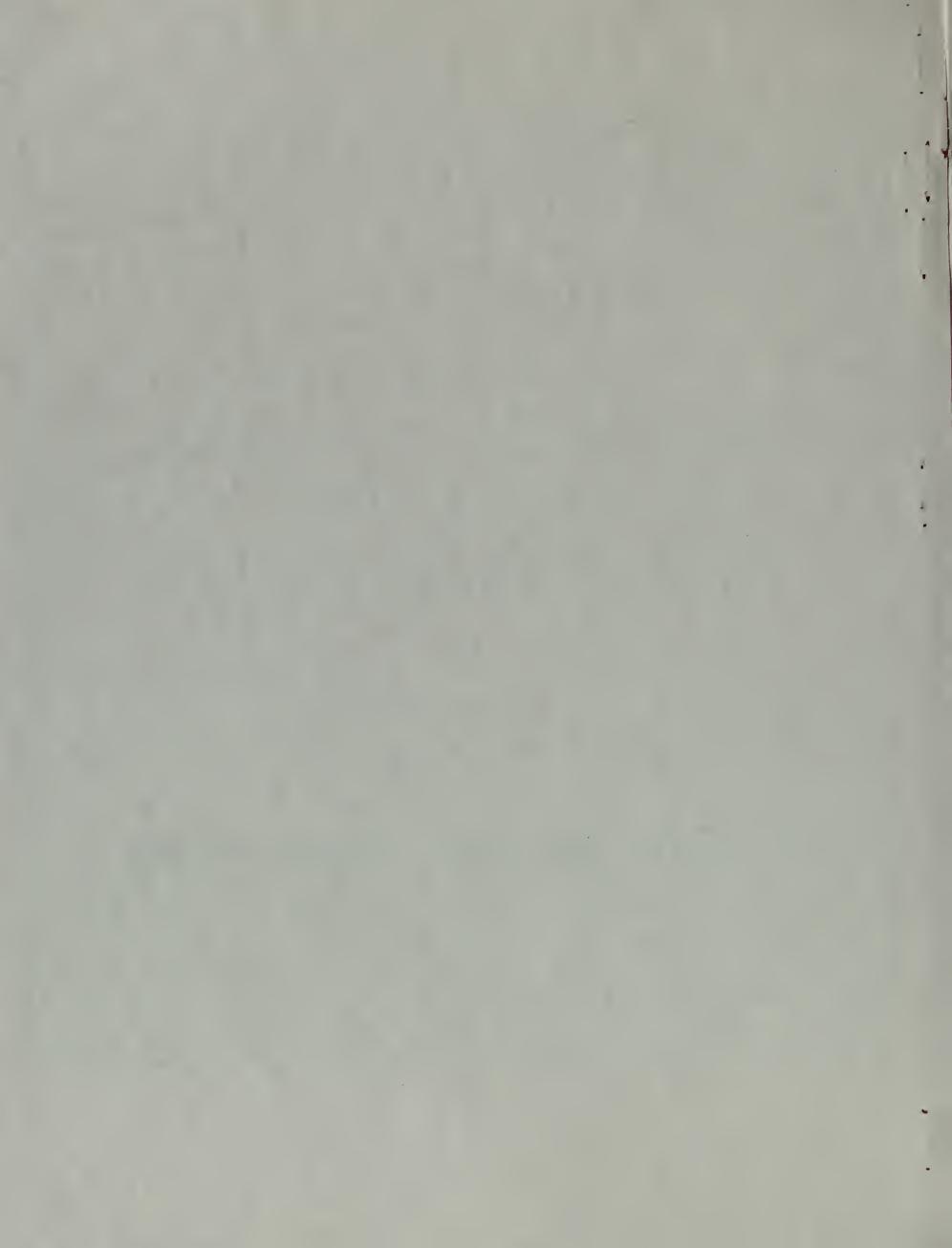
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FISCAL YEARS 1992-1994



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INTRODUCTION

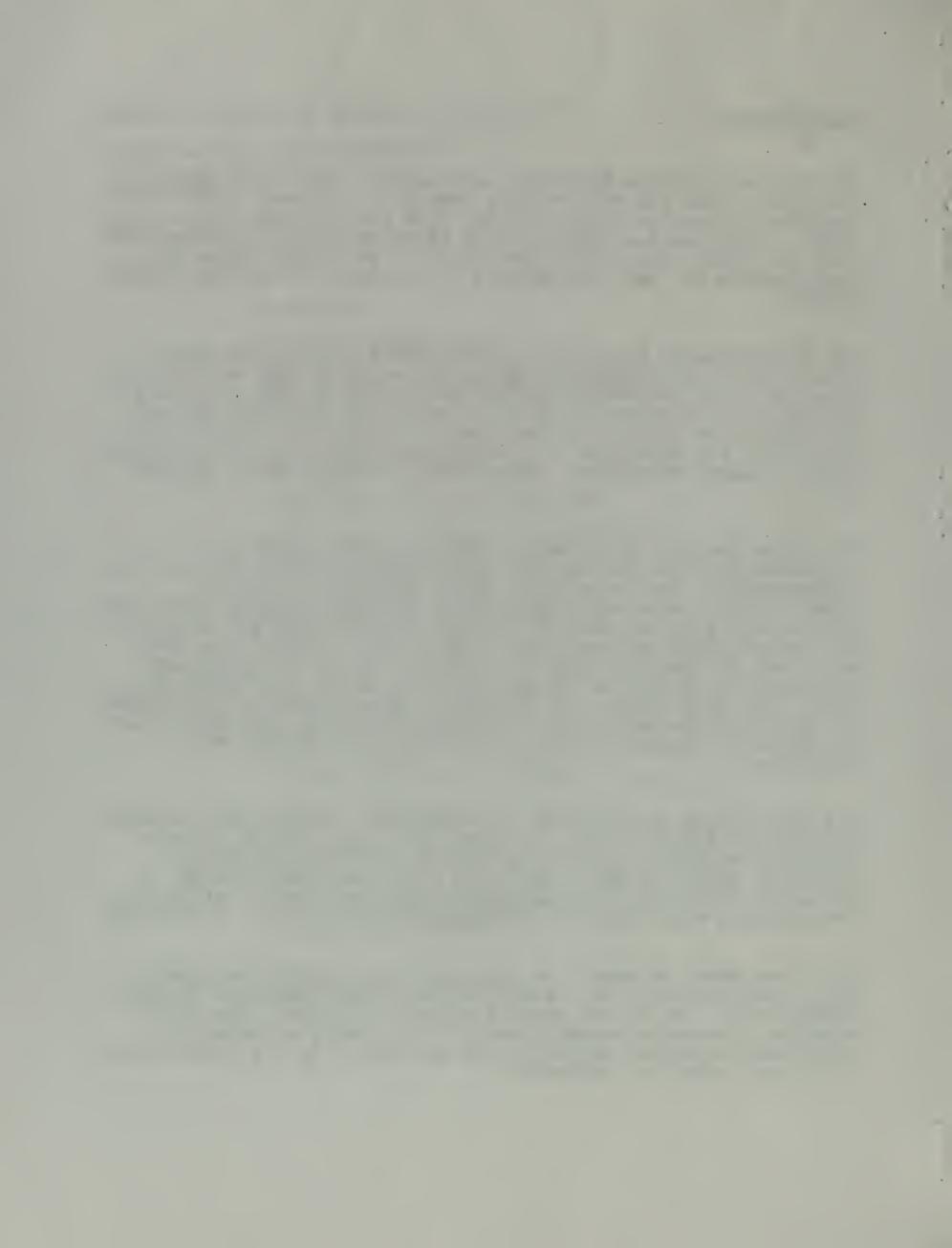
The new Carl Perkins Vocational and Applied Technology Education Act (Public Law 101-392) extends federal involvement in vocational-technical education for five years (Fiscal Years 1992-1996). This new law requires each state to develop a Three Year Plan for Fiscal Years 1992-1994 and the law presents specific requirements for both the process of planning and for the final product.

The Massachusetts State Board of Education is the sole agency responsible for the administration of the State Plan and for the supervision of the administration thereof by service providers and has all the necessary power to manage the administration of the State Plan through the Department of Education. Throughout this plan, any reference to "State Board" refers to this official Board. (Legal Reference: Massachusetts General Laws, Chapter 15.)

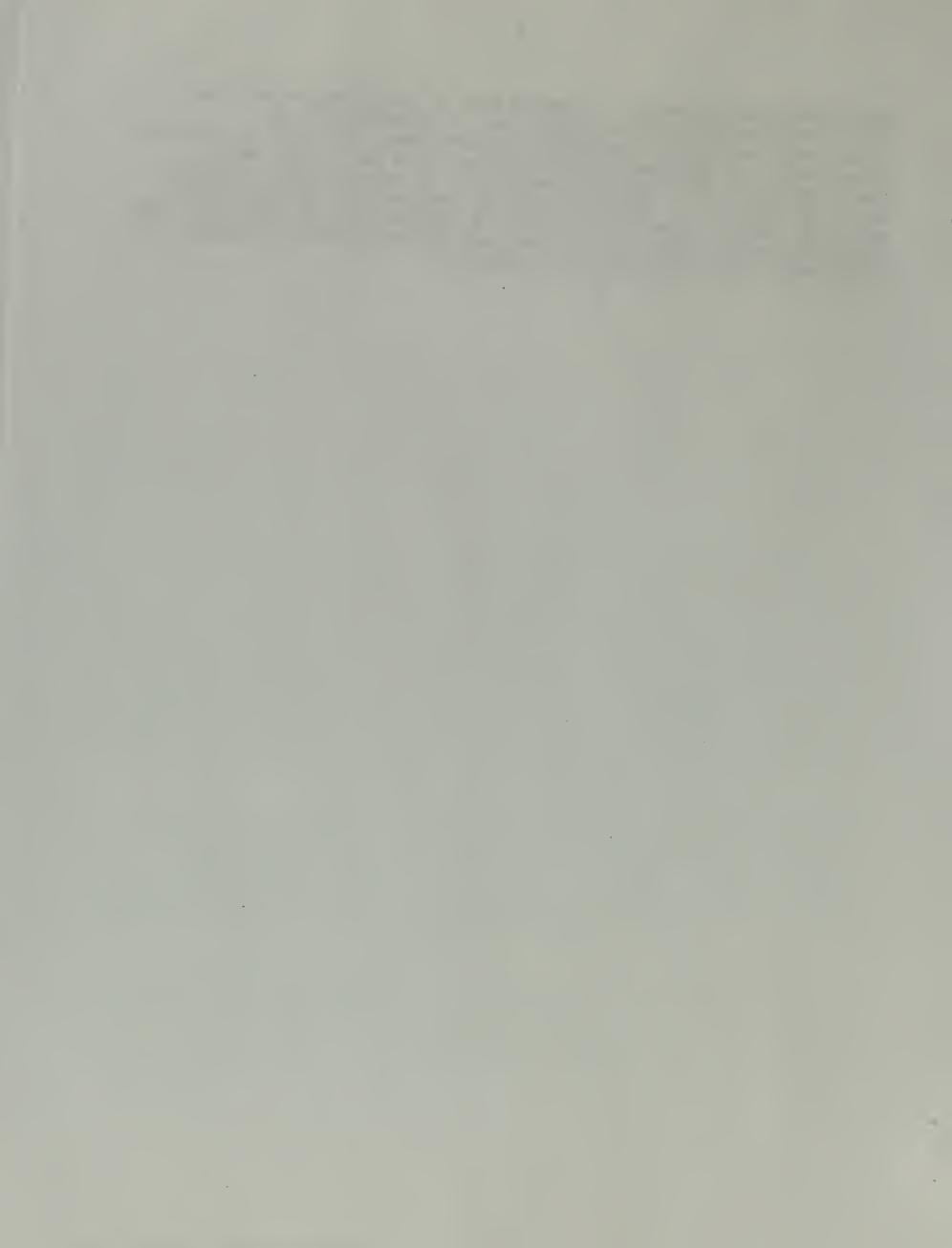
The State Board by law, has planning and policy setting responsibility for occupational and vocational education for the Commonwealth. The State Board recognizes that it shares responsibility with school committees and postsecondary governing boards in its policy setting to provide leadership and direction for occupational and vocational education. In fact, the State Board and The Board of Regents of Higher Education published a revised Joint Policy on Occupational Education on November 26, 1986. The Joint Policy is intended to give direction to planning for collaboration and cooperation by identifying important areas of agreement between the two Boards regarding occupational education.

The State Board has accepted the challenge to afford all students interested in occupational programs with equal access to such programs regardless of race, color, sex, religion, national origin or special needs. The State Board has adopted a set of goals for education in Massachusetts and these goals relate to the learning experience of all students.

The State Board welcomes the opportunity to provide long and short range planning for vocational-technical education in the Commonwealth. It is the Board's policy to involve other state agencies, statewide associations of individuals affected by vocational-technical education and the public in the planning for vocational-technical education.



The State Board does not delegate any of its responsibilities involving administration, operation, or supervision of vocational-technical education programs under the Carl D. Perkins Vocational and Applied Technology Education Act. The state administration of vocational education is overseen by the State Board of Education. The Division of Occupational Education is directly responsible for the various aspects of administering and supervising both federally funded and state approved (Chapter 74) vocational-technical education programs.



PLANNING FOR VOCATIONAL-TECHNICAL EDUCATION IN MASSACHUSETTS

Planning for vocational-technical education in Massachusetts since 1985 has been a non-stop process that relies on the participation of individuals, groups, and institutions affected by vocational-technical education. The tone was set by the year long Strategies Conference project of 1986 that involved over 400 individuals and that included a two-day conference of 135 participants who established strategies to meet nine major challenges. The results of this project shaped the next two State Plans and provided the impetus for many actions that have improved both the image and the substance of vocational-technical education in Massachusetts.

During the 1985-1990 period, planning for these programs has been conducted by the Division of Occupational Education, Massachusetts Department of Education, in concert with three statewide groups that represent the many constituencies of vocational-technical education:

State Council on Vocational Education established by the federal Vocational Education Act

Massachusetts Commission For Occupational Education established by state law

Interagency Coordination Committee
established to assist Division of Occupational Education
with representation from several state agencies and
service providers

All three groups include representatives of secondary schools and community colleges; the Board of Regents for Higher Education is represented on the Interagency Coordination Committee and the Massachusetts Commission For Occupational Education. The results of planning efforts have also been specifically reviewed by the Mass Jobs Council, a group that includes the State Job Training Coordinating Council.

The new federal vocational education Act, Public Law 101-392 (Carl Perkins Vocational and Applied Technology Education Act) requires the establishment of a new group: the State Committee of Practitioners. This Committee has two major functions: (1) to review a proposed statewide system of program standards and (2) to review any state rules for the administration of Public Law 101-392.

The members of the State Committee of Practitioners must be drawn from the nominations of statewide organizations representing students, parents, teachers, administrators, school committee members, and institutions of higher education. This Committee was appointed on October 23, 1990 and their first meeting was held on January 16, 1991 to review the new federal Act and to review proposed state rules for the administration of this Act in Massachusetts. This Committee will meet again in March and May, 1991 to begin the review of a statewide system of program standards to be proposed by the Division of Occupational Education. At their May, 1991 meeting the State Committee of Practitioners will also review any additional state rules for the administration of Public Law 101-392.

PARTICIPATORY PLANNING

The participatory planning requirements of P.L. 101-392 will be carried out through the effective utilization of local advisory committees that include parents, students, and area residents who are representatives of labor, business, and industry. These committees will be consulted during the development of the local plan/application and will also be consulted during evaluation and implementation of program standards/outcome measures. The local advisory committee must approve any request for local modification of the statewide system of standards and measures before the request is submitted to the Division of Occupational Education, Massachusetts Department of Education.

Eligible recipients (service providers) will be required to involve teachers in the design and implementation of programs assisted by P.L. 101-392.

The Division of Occupational Education will provide technical assistance through the design and dissemination of a guide for local advisory committees on P.L. 101-392. The Division will also work through statewide teacher organizations to provide information on this matter to teachers.

An expedited appeals procedure will be incorporated in the guide to local advisory committees and will assure individuals involved in this participatory planning process an efficient opportunity to inquire on aspects of the administration of this Act in Massachusetts.

This information will also be shared with statewide organizations of students, parents, teachers, administrators, and governing board members through the State Committee of Practitioners.

BACKGROUND FOR CHANGE*

Vocational-technical education operates within the context of both public education and the workplace. Changes in both of these areas impact vocational-technical education. Changes created by vocational-technical education affect both the rest of public education and the rest of the workplace. Finally, it must be noted that changes in government at all levels significantly influence the operation of vocational-technical education.

The background for change in vocational-technical education in Massachusetts includes the following recent elements:

A. Act to Modernize Vocational-Technical Education in Massachusetts (Chapter 731, an update of Chapter 74; signed into law in January, 1988)

Impact:
This State law has yet to be funded by the State; as a result, the significant improvements contained in the legislation have not occurred. The State Board of Education has approved an update of the Chapter 74 Regulations Governing Vocational-Technical Education that include changes in program operations and personnel approval

B. The Carl D. Perkins Vocational and Applied Technology Education Act (P.L. 101-392; signed into law on September 25, 1990)

(certification).

Impact: This law considerably amends the first Perkins Act and will produce at least these changes:

- o This law changes the amount of federal funds distributed to specific public school districts and public community colleges;
- o This law severely reduces the state level organization and funding of technical assistance projects, especially for curriculum and personnel development;
- o This law requires the establishment of program standards and outcome measures an emphasis promoted by Massachusetts since 1988 in the evaluation process for federally funded vocational-technical education.

C. Decline of Massachusetts Economy (1988 - Present)

Impact:

Reduced state aid to service providers; significant increase of unemployed, especially in construction and high technology fields. See Appendix C.

D. Restructuring of Massachusetts Department of Education (1989 - present)

Impact:

Decrease in technical assistance to school districts; integrated grants management process; focus on mandated activities;

E. Population Changes

1. Continuing Decline of High School Age Population

Impact: In combination with declining financial
 resources, this population change has led to:

- o Decrease in active learning experiences, including occupational education in some schools;
- o Consolidation of schools within specific school districts;
- o Increased focus on regionalization of schools and school services;

In general, this population change has led to:

- o increase in availability of space for additional students in regional vocational-technical schools;
- o as a result, vocational-technical schools have increased enrollment of adults in day programs;
- o increase in advocacy from institutions of higher education for more Massachusetts high school graduates to enroll in four year college and universities.

2. Increase of Linguistic Minority Populations in High School Enrollments

Impact:

- o Increased demand for transitional bilingual education services, including new language groups;
- o Increased demand for quality vocationaltechnical programs for this population.
- F. New Organization of Employment and
 Training Governance Structure
 (Mass Jobs Council, Regional Employment Boards)

Impact: increased coordination practices including
 review of proposed federally funded programs;

G. Cognitive Science Discoveries (e.g. how people learn)

Impact:

Increased recognition by some policymakers that active, 'hands-on' and contextual learning are necessary ingredients for most individuals in schools and in the workplace; increased recognition of the underlying values of quality vocational-technical education by some policymakers and educators;

H. Statewide Basic Skills Tests Results

Impact: Documentation of basic learning deficiencies
 as an outcome of K-8 education for some
 students, including a high percent of
 enrollees in many voc-tech schools;

I. Family Support Act (P.L. 101-485; signed into law on in 1988)

Impact: Increased focus on basic literacy and

vocational-technical education as long term strategies for successful work experiences;

NEEDS ASSESSMENT FOR STATE PLAN FOR FISCAL YEARS 1992-1994

A specific needs assessment process is outlined in the new federal Vocational Education Act (Perkins Act). The State of Massachusetts has used this process as a guide so that all federal requirements will be addressed. However, the needs assessment process for the State Plan is intended to examine all aspects that impact vocational-technical education in Massachusetts without undue concern for the funding source.

It must be noted that the Division of Occupational Education has used an 18 month period to develop State Plans since 1985 and the needs assessment has been conducted over a 12 month period in each case. The enactment of the new Perkins Act in late September, 1990 has required states to conduct the needs assessment in a very short period of time and well in advance of the expected publication of even draft regulations by the United States Department of Education.

As a result of this abbreviated schedule for State Plan development, the State Board of Education, through the Massachusetts Department of Education, Division of Occupational Education, will conduct a needs assessment process during Fiscal Year 1992 and will propose any necessary amendments to this State Plan in view of further needs assessment findings and/or the final federal regulations for Public Law 101-392.

The outline of the Statewide needs assessment is presented as Appendix A of this State Plan. This outline was sent to over 800 individuals who were invited to two public hearings that were conducted in late January, 1991. The purpose of these hearings was to incorporate the views of the public into the needs assessment process and into the State Plan. A report on the public hearing process is presented as Appendix B of this State Plan.

Section 116 Needs Assessment "Criteria"

- (1) integration of academic and vocational education programs of studies
 - (a) sample of service provider program of studies
 - (b) evaluation of the use of competency based vocational education curicula
 - (c) study on academic subjects in voc-tech schools
- (2) sequential course of study
 - (a) sample of service provider program of studies
 - (b) study on academic subjects in voc-tech schools
- (3) work skill attainment and job placement
 - (a) 1 year follow up: Chapter 74 completers
 (June 1989 grads data available by February 1, 1991)

Not available for non-Chapter 74 LEA* or for community college

- (4) Secondary/postsecondary linkages
 - (a) State Council on Vocational Education reports
 - (b) Final reports of FY 1990 Articulation Projects
- (5) instruction and experience in all aspects of industry
 - (a) sample of service provider program of studies
- (6) LEA's ability to meet needs of special populations
 - (a) Enrollment by LEA, CC**
 - (b) Completers by LEA, CC
 - (c) Local Plan for FY 1990-1992
- (7) Program quality in schools with high concentration of poor and low achieving students

Methods to identify schools

(a) free/reduced school lunch data, Pell Grants for community colleges

(b) basic skills test results

Criteria

- (c) Chapter 74/P.L. 98-524 evaluation reports
- (d) 1 year follow up data
- (e) drop out data (needs to be verified by LEA)
- (8) relevance of programs to the workplace and realistic assessment of current and future labor market needs
 - (a) Statewide projections of occupational need (Department of Employment and Training) local or area data as available
 - (b) Comparison of this data to service provider programs including a supply/demand review
 - (c) Sample of service provider program of studies
- (9) ability of curriculum, equipment, and instructional materials to meet workforce demands
 - (a) Chapter 74 evaluation reports; P.L. 98-524 evaluation reports
- (10) basic and higher order current and future workplace competencies which will reflect the hiring needs of employers
 - (a) 1 year follow up of Chapter 74 Completers

^{*} LEA = Local Education Agency

^{**} CC = Community College

FINDINGS OF THE NEEDS ASSESSMENT

- (1) Integration of academic and vocational education programs of studies
 - (a) The reinforcement of academic concepts in the occupational classroom occurs more frequently than the use of occupational competencies in the academic classroom.
 - (b) The reinforcement of academic concepts in the occupational classroom is heavily dependent on the interest and ability of the teacher and the use of specific learning materials.
 - (c) Some schools have adopted a school wide curriculum integration philosophy and the staff are meeting together to share information, resources and responsibility.
 - (d) A wealth of learning materials and teacher resources has been created during the 1980s to enable school staff to integrate academic and vocational education curricula. These resources include applied academic curricula and the identification of academic concepts and skills that are imbedded in specific occupational subjects.

(2) Sequential course of study

- (a) State approved (Chapter 74) programs have a clear sequence of courses in the occupational fields that begins with exploration and ends with placement.
- (b) Community college career programs have a sequence of courses that lead to a program certificate or an associate degree.

(3) Student work skill attainment and job placement

(a) Massachusetts has been providing a broad range of skills training programs in its public institutions. In the Fiscal Year 1990, 67 areas of intensive skills training programs (state approved Chapter 74 programs) were offered in the secondary schools; 127 areas of career programs were offered in the community colleges. The numbers of program areas have slightly increased in the past three years.

- (b) Of total 235,250 grades 9-12 enrollments in Massachusetts in the Fiscal Year 1990, 15% of the students were enrolled in the Chapter 74 vocational-technical programs. Thirteen percent (13%) of the students were enrolled in less intensive skills training programs offered in the comprehensive high schools, mainly in the areas of Business and Office Occupations, Technology Education, and Vocational Home Economics. The percentage of voc-tech program students are similar in the past two years.
- (c) Of 30,436 students enrolled in Chapter 74 programs (excluding exploratory programs) in FY 1990, 26% are in Construction, 18.2% in Technical, 10.8% in Service Occupations, 11.7% in Industrial Manufacturing, 12% in Automotive, 7% in Marketing, 4.6% in Allied Health, and 3.1 in Agriculture.

Compared with FY 1988 enrollments, there are about 3% increase in Construction, 1% increase in Technical, 6% decrease in Service Occupations, 2% decrease in Industrial Manufacturing, and less than 1% decrease each in Automotive, Marketing, Allied Health, and Agriculture.

Of 22,124 students enrolled in Career programs in community colleges in FY 1990, 59.8% are in Service Occupations, 21.5% in Allied Health, 14.1% in Technical, 2.7% in Marketing, 1% in Industrial Manufacturing, 0.3% in Agriculture, 0.3% in Automotive, and 0.2% in Construction.

Compared with FY 1988 enrollments, there are about 3% increase in Service Occupations, 1% increase in Marketing, and less than 1% increase each in Industrial Manufacturing, Allied Health, and Construction. There are about 4% decrease in Technical, and less than 1% decrease each in Agriculture and Automotive.

(d) The statewide one year follow up survey of June, 1989 Chapter 74 program graduates revealed that 76% of the secondary graduates were positively placed in jobs related to training, further education, and military services. Postsecondary graduates in programs run by school districts have a higher positive placement of 87%.

Seventeen secondary program areas have less than 70% of positive placement, and seven program areas have less than 60% positive placement.

(4) Secondary/postsecondary linkages

- (a) Surveys made in 1986 and 1988 indicate a broad and increasing range of involvement in cooperative efforts by the various institutions. In general, the community colleges and regional vocational technical schools have a more active involvement in articulation, collaboration, and JTPA agreements than the city vocational technical schools and comprehensive high schools.
- (b) At community colleges, over 80% (13) of the community colleges reported articulation agreements in 1988 as compared to 70% (11) in 1986. The total number of articulation agreements increased by 96% (from 24 to 47). The variety of programs articulated increased by 37% from 27 difference course categories in 1986 to 37 in 1988. Most articulate agreements (70%) are for transferred credit.

Eighty percent of the community colleges also reported collaborative agreements involving the sharing of faculty and facilities with secondary schools. The number of JTPA contracts increased by 36% (from 14 to 19) and the number of colleges with such contracts increased from 8 to 10.

(c) At regional vocational technical schools, the number of schools involved in articulation agreements increased by 19% (from 16 to 19). The number of articulation agreements increased by 17% (from 29 to 34). The variety of course programs articulated increased by 9% (from 32 to 35).

Seventy percent of the schools had collaborative agreements with community colleges. The number of collaborative agreements decreased slightly in 1988 (from 31 to 29). JTPA agreements with SDAs increased by 33% (from 18 to 24). Half of the schools have contracts with SDAs.

- (d) The actual number of course programs represented in the articulation agreements increased in 1988 by 26% (from 67 to 74). The larger numbers of program articulation are in Computer (over 20%), Business Administration (17%) and Electronics (17%).
- (5) Instruction and experience in all aspects of industry
 - (a) Schools and the programs with effective advisory committees provide the most appropriate scope of learning experiences including opportunity for work based learning in later years of the program.

- (b) Students who complete both a high school vocationaltechnical education program and a postsecondary program in a related subject have received instruction and experience in the greatest amount of aspects of industry.
- (c) All state approved Chapter 74 programs are required to include specific learning experience on health, safety, and environmental issues relevant to the occupations.

(6) LEA's ability to meet needs of special populations

- (a) FY 1990 grades 9 to 12 enrollments indicate that 28% of high school students enroll in occupational education programs: 15% in intensive skills training programs (Chapter 74) and 13% in less intensive skills training programs (non-Chapter 74).
- (b) A comparison of all district enrollments with occupational program enrollments reveals that:
 - o Male and female enrollments in occupational programs are proportionally close to those in all district enrollments (male 54% vs 51%. female 46% vs 49%). Male enrollments are, however, proportionally higher in Chapter 74 programs than in all programs (66% vs 51%) but lower in non-Chapter 74 programs (41% vs 51%). Female enrollments are proportionally lower in Chapter 74 programs (34% vs 49%) but higher in non-Chapter programs (59% vs 49%).
 - o Minority enrollments are proportionally higher in occupational programs than in all district programs (19% vs 17%) although Black and Asian students in Chapter 74 programs are under-represented.

FY 90 Minority Enrollments All Districts vs Occupational Programs

Di	All	Occupational Programs	Chapter 74	Non-Chapter 74
Total Minority	17%	19%	14%	24%
Black Hispanic Asian American Indian	7% 6% 3% 1 0.1%	8% 8% 2% 0.3%	5% 7% 1% 0.3%	12% 8% 4% 0.2%

- o Handicapped student enrollments are also proportionally higher in occupational programs than in all district programs (19% vs 18%) although proportionally less handicapped students enroll in non-Chapter 74 programs (13% vs 18%).

 Proportionally more handicapped students enroll in Chapter 74 programs (24% vs 18%).
- o In occupational programs 24% of students are academically and economically disadvantaged (26% in Chapter 74, 20% in non-Chapter 74). Data is not available for the number of academically disadvantaged students in all school districts.
- o Limited English proficient student enrollments are about same in occupational programs and in all district programs (4% vs 4%) although proportionally less LEP students enroll in Chapter 74 programs (3% vs 4%). Enrollments in non-Chapter 74 programs are proportionally higher (5% vs 4%).
- (7) Program quality in schools with high concentrations of poor and low achieving students
 - (a) The quality of the academic and occupational programs in the schools that were determined to have high concentrations of poor and low achieving students was quite variant.
 - (b) A few of these schools have serious deficiencies in both the academic and occupational areas of study.
 - (c) A few of these schools have created innovative and effective strategies to improve the basic skills knowledge and competence of their students.
 - (d) Many of these schools have at least adequate state approved occupational education programs, but are struggling to improve the academic skills deficiencies of students that they have received from sending schools.
- (8) Relevance of programs to the workplace and realistic assessment of current and future labor market needs
 - (a) See Appendix C for a detailed statewide report from the Center for Labor Market Studies at Northeastern University and the State Occupational Information Coordinating Committee.
 - (b) The effective management of program and general advisory committees at the service provider level is the essential means to achieve this objective.

- (9) Ability of curriculum, equipment, and instructional materials to meet workforce demands
 - (a) These ingredients of a successful program meet workforce demands in those service providers that operate effective program advisory committees.
 - (b) Curriculum and instructional materials that are relevant to workforce demands and based upon surveys of workers are available to every service provider in Massachusetts through the statewide curriculum resource center.
 - (c) All occupational fields have been impacted by advances in technology; some occupational fields have been so heavily impacted that equipment becomes (obsolete) every few years.
 - (d) Service providers have encountered significant difficulties as they attempt to maintain currency of equipment in some occupational fields.
- (10) Basic and higher order current and future workplace competencies which will reflect the hiring needs of employers
 - (a) The effective management of program and general advisory committees at the service provider level is the essential means to achieve this objective. Resources are available to service providers from the Division of Occupational Education.
 - (b) The effective management of technical committees of workplace representative at the statewide level provides very useful guidance and technical assistance to local service providers.
 - (c) It is difficult to measure future workplace competencies in specific occupations; general future workplace competencies include problem solving, team work concepts, and desire to learn new ideas.
 - (d) Follow up data on completers of Chapter 74 vocationaltechnical education programs shows very positive outcomes that reflect at least the current needs of employers.
 - (e) Follow up data is <u>not available</u> for completers of community college programs on a statewide basis; follow up data is <u>not available</u> for completers of non-Chapter 74 programs.

NEEDS

- (1) Integration of academic and vocational education program of studies
 - (a) The statewide curriculum resource center needs to continue to disseminate information and other resources on this topic and to provide training activities to statewide audiences and to specific service providers as requested.
 - (b) Each service provider needs to develop a plan for this topic including staff development. This plan will first be presented in the Local Application for Fiscal Years 1992-1994.
 - (c) The Division of Occupational Education needs to coordinate the requirements for Chapter 74 programs and the Perkins Act requirements for those service providers that will conduct vocational-technical education under both laws.

(2) Sequential course of study

- (a) Each service provider needs to present a clear sequence of courses in each occupational subject that is intended to qualify under the Perkins Act. This presentation will be a Local Application requirement.
- (b) In some occupational subject areas, the Division of Occupational Education may need to convene a committee of employer/educators to establish a quality sequence of courses (competencies).

(3) Student work skill attainment and job placement

- (a) The Division of Occupational Education needs to compare needs of labor market with vocationaltechnical program offerings and use the comparison analysis to update the statewide demand list of skills training programs.
- (b) The community colleges and comprehensive high schools offering occupational education programs need to create and implement a one year completer follow-up system.

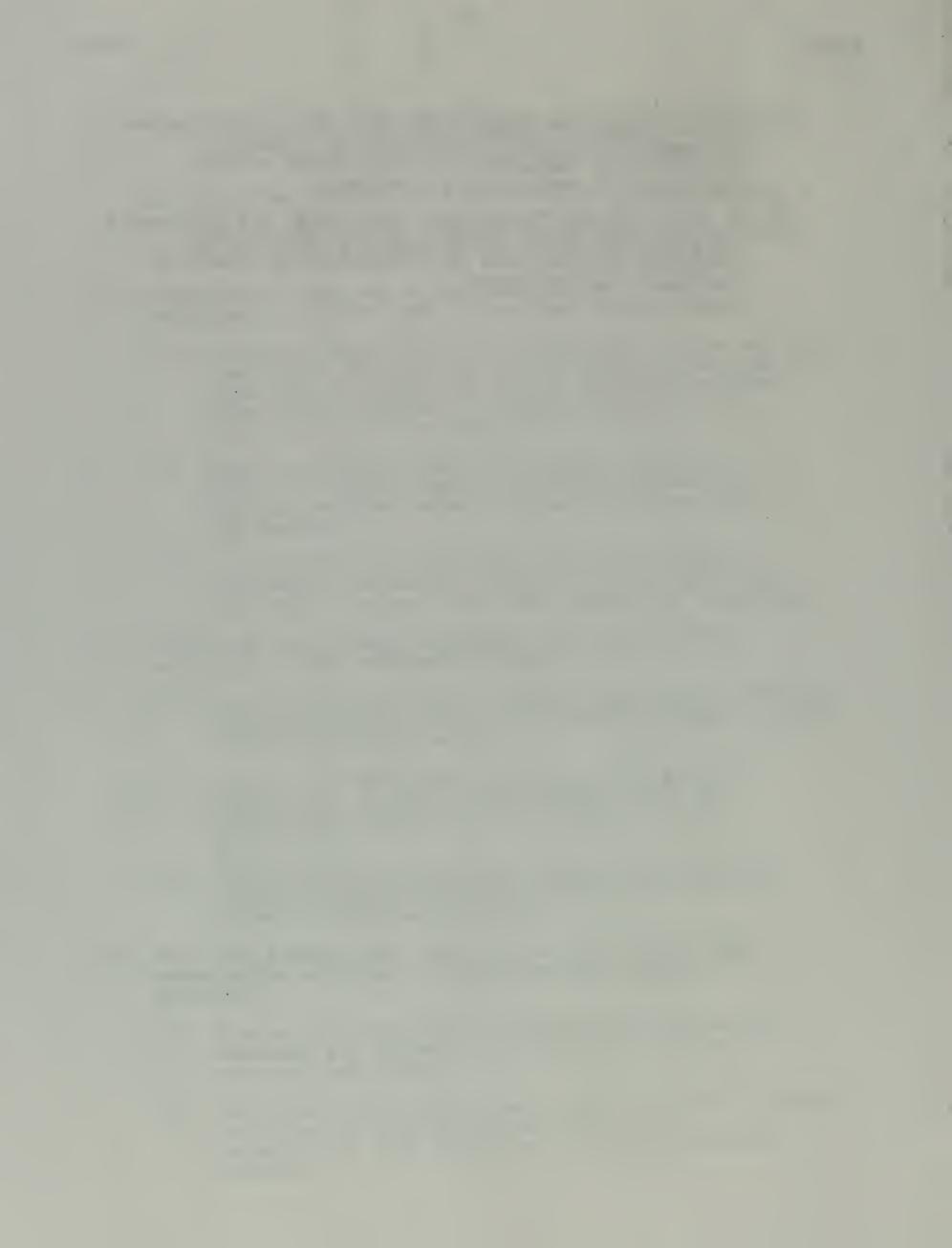
(4) Secondary/postsecondary linkages

(a) The Division of Occupational Education needs to continue promoting secondary and postsecondary articulation activities including the Tech Prep programs.

- (b) Service providers need to maintain ongoing articulation agreements and continue to expand program areas for articulation as appropriate.
- (5) Instruction and experience in all aspects of industry
 - (a) There is a need for detail on the content behind this principle and the application to specific occupations and industries.
 - (b) There is a need to clearly examine the application of this principle in a true competency based format.
 - (c) There is a need for a clear examination of this principle in the context of realistic academic and occupational readiness demands, including admission requirements to higher education.
- (6) LEA's ability to meet needs of special populations
 - (a) The Division of Occupational Education needs to continue monitoring enrollment patterns of special populations and to examine completion rates of special populations.
 - (b) Service providers need to offer more career awareness and exploratory programs to the middle school and comprehensive high school students.
 - (c) Schools offering occupational education programs need to initiate or continue support programs for students who have selected nontraditional occupational programs for their sex.
 - (d) The schools offering Chapter 74 programs with more than 30% students who require an Individual Education Plan need to examine the appropriateness of policies with these sending schools.
 - (e) Comprehensive high schools need to enroll a higher percentage of handicapped students in their occupational education programs.
 - (f) The schools with a higher concentration of Black or Asian or LEP students need to examine their career counseling policies and practices to ensure appropriate access to vocational-technical programs for these populations.
- (7) Program quality in schools with high concentration of poor and low achieving students
 - (a) The State Department of Education needs to continue to focus resources on these schools and to share information on effective strategies.

- (b) Schools that have established restructing plans need to pursue the implementation of these plans with strong support from local and state sources.
- (c) Expanded learning strategies with an emphasis upon active learning and subject matter presented in the context of students present lives and future careers needs to be promoted by state and local staff.
- (8) Relevance of programs to the workplace and realistic assessment of current and future labor market needs
 - (a) Service providers need to effectively utilize advisory committees, particularly the members representing the workplace, to conduct an annual review of programs, especially curricula, to incorporate skills and knowledge of the new workplace.
 - (b) The State Occupational Information Coordinating Committee (SOICC) needs to continue to conduct training on labor market issues and occupational information.
 - (c) The Division of Occupational Education needs to coordinate a statewide validation of occupational competencies through the use of Technical Committees.
- (9) Ability of curriculum, equipment, and instructional materials to meet workforce demands
 - (a) Service providers need to effectively utilize advisory committees, particularly the workplace representative, to meet workforce demands.
 - (b) Service providers need to base all occupational subject and integrated academic curricula on competencies identified and validated by job incumbents.
 - (c) The Division of Occupational Education needs to include a specific item on equipment in the next statewide assessment process.
- (10) Basic and higher order current and future workplace competencies which will relect the hiring needs of employers
 - (a) Service providers need to effectively utilize the knowledge and experience of program and general advisory committees.
 - (b) The Division of Occupational Education needs to expand the number of technical committees with a concentration upon occupations with the greatest changes.

- (c) Future workplace competencies that are evident across occupations should be identified by a team of educators and employers for application to both academic and occupational classrooms.
- (d) A follow up data system must be created for completers of federally funded non-Chapter 74 occupational education programs and for completers of community college career programs.



STATEMENT OF GOALS FOR FISCAL YEARS 1992-1994

- A. TO ASSURE EQUAL ACCESS AND TO ASSURE EQUAL OPPORTUNITY FOR ALL STUDENTS TO SUCCEED IN QUALITY VOCATIONAL-TECHNICAL EDUCATION
- B. TO DEVELOP AND IMPLEMENT STRATEGIES TO EFFECTIVELY MEASURE AND REPORT OUTCOMES FOR VOCATIONAL-TECHNICAL EDUCATION PROGRAMS
- C. TO ENHANCE THE STATUS OF VOCATIONAL-TECHNICAL EDUCATION AS A PARTNER IN THE ECONOMIC DEVELOPMENT OF MASSACHUSETTS.
- D. TO PROMOTE THE INTEGRATION OF ACADEMIC AND VOCATIONAL-TECHNICAL STUDIES SO THAT LEARNING FOCUSSES ON PROBLEM SOLVING AND CRITICAL THINKING/PERFORMANCE SKILLS
- E. TO COORDINATE VOCATIONAL-TECHNICAL EDUCATION PROGRAMS AND SERVICES WITH OTHER PUBLIC AGENCIES AND THE PRIVATE SECTOR SO THAT RESIDENTS OF MASSACHUSETTS HAVE ACCESS TO A SYSTEM THAT EFFECTIVELY MEETS THEIR NEEDS

EVALUATION	Enrollment Patterns	Program Completion Patterns	Placement Results; Program Completion Patterns	Placement Results; Program Completion Patterns	Enrollment Patterns	sed Organizations
REQUIRED FROM	Sending Schools/ Agencies*	Sending Schools/ Agencies*	Sending Schools/ Agencies*	Agencies	Sending schools/ agencies	c Community-Based
LEAD RESPONSIBILITY	Service Providers	Services Providers	Service Providers	Service Providers	Service Providers	*Agencies include
ACTIVITY	A.1 Outreach to students and parents (guardians), particulary special populations, to inform them of programs, services and requirements at least one year prior to entry opportunity.	A.2 Assessment of students' interests aptitudes, and learning styles prior to program enrollment.	A.3 Career counselling for all students including career awareness, assessment findings and academic academic/occupational competency requirements	A.4 Support services that enable students, especially special populations, to achieve competence in regular vocational- technical education.	A.5 Support programs for students who have selected nontraditional programs for their	
GOAL	A. To assure equal access and to assure equal opportunity for all students to succeed in quality vocational-technical education					

SUPPORT

EVALUATION	Report to State Board of Education	Division of Occupational Education Review and Report	Annual evaluation report to Division of Occupational Education	Annual evaluation report	Follow-up report
RESPONSE REQUIRED FROM	State Committee of Practitioners	Advisory Committee including Employer Representatives and Special Population Representatives	Advisory Committee Technical Assistance from Department of Education staff	Advisory Committee	Advisory Committee
LEAD	Division of Occupational Education	Service Providers	Service Providers	Service Providers	Service Providers
ACTIVITY		2 Adopt state standards and outcome measures or request state approval for local modification by 12/31/92	3 Evaluate all programs supported by P.L. 101-392 funds each year	4 Incorporate standards and outcome measures in evaluation process during Fiscal Year 1993	S Implement a one year completer follow-up system by all service providers
30AL AC	3. To develop and B.1 implement strategies to effectively measure and report outcomes for vocational-technical education programs	B . S	ů M	m a	m

SUPPORT'/

RESPONSE REQUIRED FROM EVALUATION	Advisory Advisory Committee Committees Meeting Minutes; State/National Program Certification	Service Technical Committee Providers meeting minutes	Service Participant Providers Evaluation	SOICC; Division of up reports; Occupational Advisory Committees Education; meetings minutes Committees
RESP REQU FR	Advi	Service Provide	Service Provide	SOIC Divi Occu Educ Advi Comm
LEAD RESPONSIBILITY	Service Providers	Division of Occupational Education	State Occupational Information Coordinating Committee(SOICC)	Service Providers
ACTIVITY	C.1 Annual review of programs, especially curricula, to incorporate skills and knowledge of new workplace	C.2 Statewide validation of program competencies and other standards by technical committees	C.3 Training on labor market and occupational information	C.4 Expansion/Creation of Programs in in subjects that reflect current and future work- place needs; discontinuance of programs that do not reflect these needs
GOAL	C. To enhance the status of vocational-technical education as a partner in the economic development of Massachusetts.			

SUPPORT/

EVALUATION	Academic and Occupational Competencies Attainment	Academic and Occupational Competencies Attainment	Participant Evaluation
RESPONSE REQUIRED FROM	Department of Education; Statewide Curriculum Resource Center	Department of Education; Statewide Curriculum Resource Center	Service Providers
LEAD RESPONSIBILITY	Service Providers	Service Providers	Statewide Curriculum Resource Center Department of Education
ACTIVITY	D.1 Create/adopt applied academic curricula in major subject areas	D.2 Integrate academic and vocational-technical education in both academic and occupational subject areas	D.3 A statewide conference and a publication to to spotlight exemplary programs of active learning that can be duplicated/adopted by other service providers
OAL	promote the tegration of academic and cational-chnical studies	s on solving tical g skills.	

SUPPORT/

GOAL

Ω.

EVALUATION	Massachusetts Commission For Occupational Education Review/Report for two State Boards	ity Department of Education zations;Review of local application es and plans	State Council on Vocational Education
SUPPORT/ RESPONSE REQUIRED FROM	Division of Occupational Education; Employers as Partners; Advisory Committee	Community Based Organizations; Local Agencies	(a)Regional Employment Boards; (b)Mass Jobs Council
LEAD	Service Providers through Consortiums	Service Providers	(a) Service Providers (b) Department of Education
ACTIVITY	E.1 Create Tech Prep programs in high demand occupations that interlock the last two years of high school academic and occupational study with the first two years of a postsecondary education that completes all requirements for an associate degree with a related occupational focus	E.2 Coordination with community based organizations and other local agencies that may provide support services for students	E.3 Coordination with (a) Regional Employment Boards and (b) Mass Jobs Council (State Job Training Coordinating Council)
DAL A	To coordinate vocational technical education programs and services with other public agencies and the private sector	£1	Δ

GOAL

<u>.</u>

		20
Category	Method of Distribution	Eligible <u>Institutions</u>
Title II - Basic Grant		
Secondary	Allocation Formula Prescribed by P.L. 101-392	Public City/Town Vo-Techs Public Regional Vo-Techs
	(see p.51)	Public Collaborative Vo-Techs Comprehensive High Schools *
Postsecondary/Adult	Allocation Formula Prescribed by P.L. 101-392 (see p.54)	Public Community Colleges/Technical Institutes Public Vo-Tech Schools
Single Parent/ Displaced Homemaker	Competitive	Public Community Colleges/Technical Institutes Public Vo-Tech Schools
Sex Equity	Competitive	Public Vo-Tech Schools Comprehensive High Schools
Criminal Offenders	Administered by Department of	Correctional Institutions

Title III -Special Programs

Community Based Organizations	Competitive	Joint Application: Community Based Organizations Public High Schools
Consumer and Homemaking	Competitive	Comprehensive High Schools Public Vo-Tech Schools
Tech Prep Education	Competitive	Consortia of Public Community College/Technical Institutes Public Vo-Tech Schools Comprehensive High Schools

Correction

*Those schools that offer vocational-technical education that qualifies under this Act and that reach the \$15,000 minimum allocation level. Non Chapter 74 programs must be a sequence of courses that include at least 10 periods per week of occupationally focussed study.

RATIONALE FOR FUNDING

Decisions related to funding issues have been made following discussions with the State Council on Vocational Education, the Massachusetts Commission For Occupational Education, and the State Committee of Practitioners. These decisions were also influenced by testimony received during the public comment period for the State Plan. The Council of Community College Presidents was specifically consulted and presented advice on the allocation of funds to postsecondary institutions.

The split of funds between secondary and postsecondary was based on enrollment patterns and continues to result in a 75% secondary - 25% postsecondary division of funds. This split will be accomplished through allocation of funds under the Basic Grant and through a reserve of 80% of the Single Parent/Displaced Homemaker funds for post secondary institutions. The inclusion of vocational-technical schools in the funding for Single Parent/Displaced Homemaker grants is a new policy that was advocated during the public comment period on the State Plan. The organization of consortia of education institutions will be encouraged through the competitive Request-For-Proposals process so that single parents/displaced homemakers may receive services in a wide range of occupational areas, reflecting the diversity of the State's economy.

Additional information on use of funds is contained under the sections of this Plan that relate to specific program categories and to secondary and to postsecondary programs.

Proposed State Rules

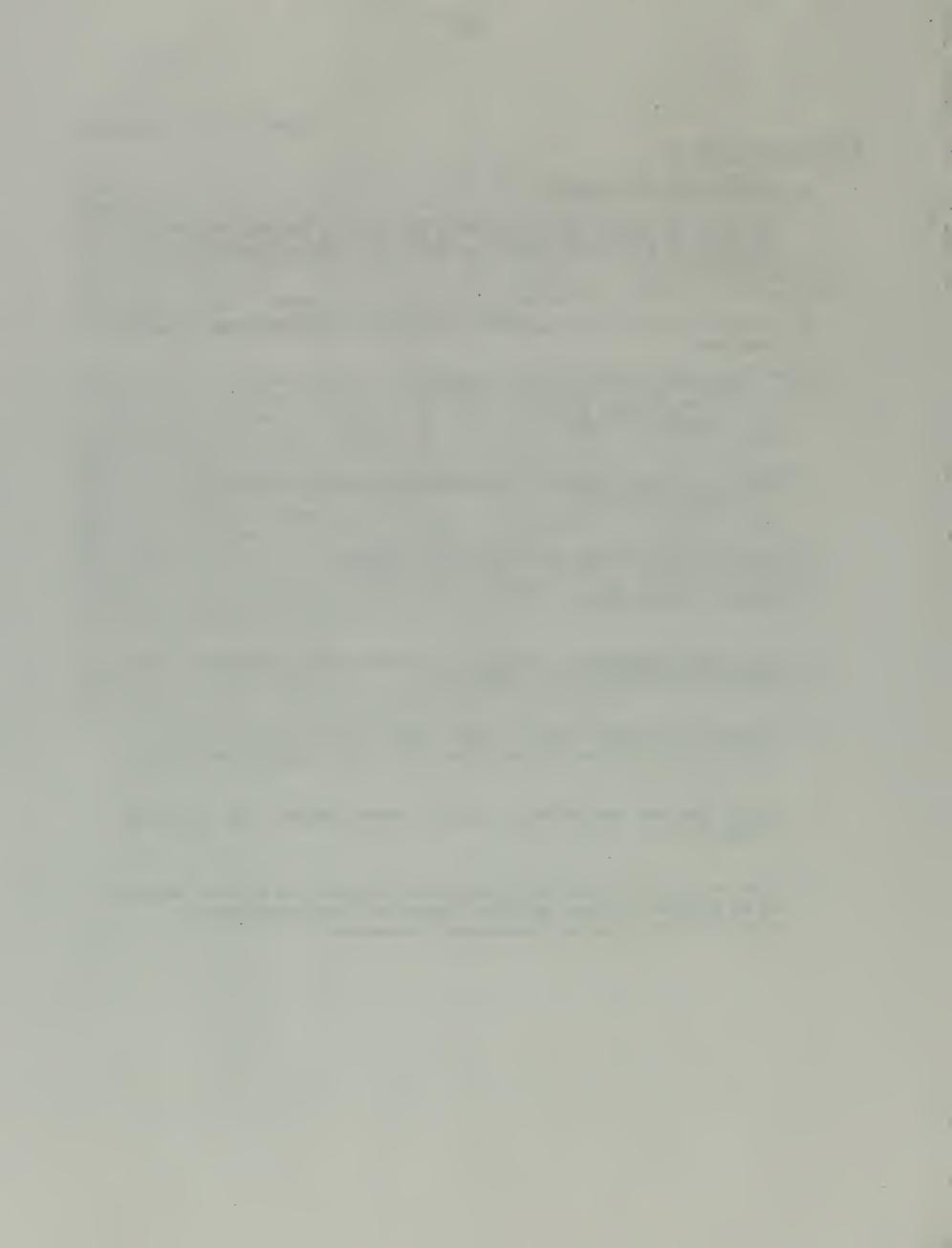
A. Local Advisory Committee

To carry out participatory planning required by Section 118 of P.L. 101-392 and to provide advice on planning, program operation, and evaluation.

B. Minimum 10 periods per week for non Chapter 74 occupational education programs.

To meet Section 235 requirements: size, scope, quality sequence of courses

- C. Split Basic Grant Funds for secondary/postsecondary according to full-time enrollment.
- D. Eligible Institutions for Competitive Funding see p. 27 State Plan
- E. Third Party Evaluation for Service Providers that average more than \$100,000 for Fiscal Years 1992-1994.
- F. Designate Northampton-Smith Vo-Tech School and Worcester Vo-Tech School System as Area Vo-Tech Schools for their respective cities.
- G. Target Consumer and Homemaker Funds to serve pregnant and parenting teenagers.
- H. Require Local Modification of Statewide Programs and Outcome Measures to be approved by Local Advisory Committee, then submitted for approval to Division of Occupational Education.



LOCAL APPLICATION

Any eligible recipient desiring financial assistance under funds for Secondary, Postsecondary, and Adult vocational programs must submit to the Massachusetts Department of Education an application which includes a three-year local occupational education plan covering Fiscal Years 1992-1994 and a yearly program grant application. The local application will be reviewed for approval by the Deaprtment of Education and a representative sample of local plans will be reviewed by the state administrators responsible for the programs for the handicapped, the limited English Proficient, and Chapter 1 as required by Section 111(c)(d)(e).

Requirements for the Local Plan for Occupational Education

A local plan is required to comply with the following requirements and to describe how these requirements are adequately addressed.

1. Occupational Education Advisory Committee

Any grant recipient must form and fully utilize an occupational education advisory committee with membership from business, industry, labor relevant to the occupation, and from both parents and students and representations of special populations. The advisory committee shall actively participate in developing the local plan, in improving program quality, and in program evaluation. The advisory committee shall meet at least twice a year and keep minutes for the meetings.

Requirements:

- (a) Attach a list of committee membership.
- (b) Describe the committee's activities related to the local plan.

2. Needs Assessment

A local assessment of needs for vocational education programs must be conducted. The statewide assessment needs must be used as a reference in identifying specific local needs. The needs of individuals who are members of special populations, in particular, should be throughly assessed.

Requirements:

- (a) Describe the process of needs assessment.
- (b) Summarize the findings of needs assessment.
- (c) Describe how the needs of special populations are assessed.

3. Proposed Programs to Address Needs

The main purpose of the program grant is to assist in improving vocational education programs with the full participation of individuals who are members of special populations, at a limited number of sites or with respect to a limited number of program areas. The priority should be given to sites or programs that serve the highest concentations of individuals who are members of special populations. The proposed programs must be: (1) of such size, scope, and quality as to be effective, (2) integrating academic and vocational education through coherent sequences of courses so that students achieve both academic and occupational competencies, and (3) providing equitable participation for the special populations.

Requirements:

- (a) Describe the vocational education programs to be funded, including
 - o the extent to which the program incorporates each of the elements described in Section 235; and
 - o how the grant recipient will use the funds available under Title II, Part C, and from other resources to improve the program with regard to each use of funds.
- (b) Describe how the proposed programs will
 - o integrate academic and occupational disciplines so that students participating in the program are able to achieve both academic and occupational competence; and
 - o offer coherent sequences of courses leading to a job skill; and
 - o incorporate activities to eliminate sex/race bias and stereotyping.

4. Coordination

Prior to the submission to the Department, the eligible recipient should share the local plan with the regional vocational-technical school, when applicable, and the Regional Employment Board for review and coordination in order to avoid duplication and to expand the range of and accessibility to vocational education services. Coordination with community-based organizations is also required.

Requirements:

- (a) Describe methods to be used to coordinate vocational education services with relevant programs conducted under JTPA; and
- (b) Provide a description of coordination with communitybased organizations.

5. Special Populations

The proposed programs under Perkins funds should ensure equal access and equal participation of individuals who are members of special populations.

Requirements:

- (a) Report the number of individuals in each of the special populations;
- (b) Describe how the needs of individuals who are members of special populations are assessed and how the planned use of funds will meet such needs;
- (c) Describe how access to programs of good quality will be provided to students who are economically disadvantaged, students with handicaps, and students of limited English proficiency through affirmative outreach and recruitment efforts;
- (d) Describe how special support services will be provided for special populations to assist them to succeed in regular vocational education programs;
- (e) Describe methods used to develop vocational education programs in consultation with parents and students of special populations; and
- (f) Describe the process to monitor the provision of vocational education to individuals who are members of special populations.

COMPARABILITY

State and local funds will be used in the schools of each local educational agency that are receiving funds under this Act to provide services which, taken as a whole, are at least comparable to services being provided in schools in such agency which are not receiving such funds.

Service providers have been informed through the Local Plan/Application process, including workshop presentations, of the comparability requirement. Service providers have been advised of the following types(s) of assurances of compliance with this requirement:

- (a) written assurance that the service provider has established and implemented a district wide salary schedule;
- (b) evidence of policy to ensure equivalence among schools or other sites in staffing, curriculum materials, instructional supplies, etc.
- (c) written assurance of comparability of the number of students assigned to teachers in programs or sites supported by P.L. 101-392 funds compared to programs or sites not supported by P.L. 101-392 funds. The student-teacher ratio in the programs/sites served by P.L. 101-392 funds should not exceed the student-teacher ratio in other programs/sites at the service provider by more than 10 percent.

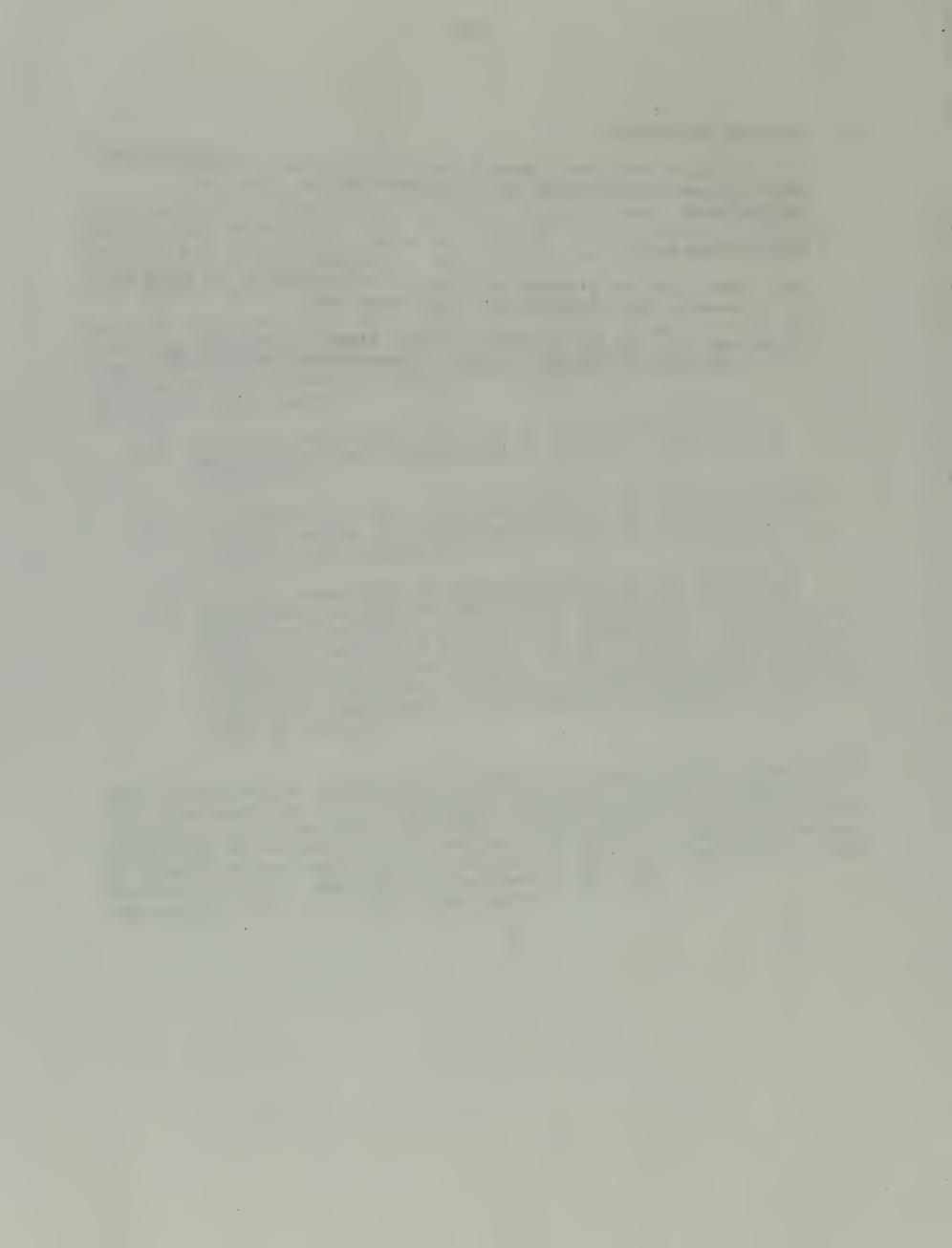
The Massachusetts Department of Education will monitor compliance with the comparability requirements through review and approval procedures for the Local Plan/Application, through monitoring and technical assistance activities each fiscal year, through review of final project reports and evaluation reports submitted by each service provider, and through statewide meetings with representatives of service providers.

6. Program Evaluation

The eligible recipient should conduct program evaluation to measure program progress and outcomes and to plan for improvement.

Requirements:

- (a) Describe the program evaluation standards to be used to measure its progress and outcomes; and
- (b) Describe the process to monitor the progress of individuals who are members of special populations.



PROGRAM EVALUATION AND MONITORING

Annual Evaluation

Each service provider will annually evaluate the effectiveness of the programs founded under the Perkins Act based on the program standards and outcome measures as developed. As part of each such evaluation, the service providers will

- (1) Review programs, with the full and informed participation of representatives of individuals who are members of special populations, to
 - (a) identify and adopt strategies to overcome any barriers which are resulting in lower rates of access to vocational education programs or success in such programs for individuals who are members of special populations; and
 - (b) evaluate the progress of individuals who are members of special populations in vocational education programs supported under Perkins funds;
- (2) Evaluate the progress of vocational education programs assisted under Perkins founds in providing vocational education students with strong experience in and understanding of all aspects of the industry the students are preparing to enter.
- (3) Submit for review a final program performance report after the termination of the program.

Local Program Improvement Plan

At the end of Fiscal Year 1993, if any service provider has not made substantial progress in meeting the established program standards and outcome measures, the Department of Education will require such service provider to submit for review and approval a plan, in consultation with teachers, parents, and students concerned for program improvement for the succeeding school year. Such plan shall describe how the service provider will identify and modify programs funded under the Perkins Act, including

- (a) a description of vocational education and career development strategies designed to achieve progress in improving the effectiveness of the programs; and
- (b) if necessary, a description of strategies designed to improve supplementary services provided to individuals who are members of special populations.

State and Local Joint Plan

If, after one year of implementation of the Local Program Inprovement Plan, sufficient progress in meeting the program standards and outcome measures has not been made, the Department of Education will work jointly with the service provider and teachers, parents, and students concerned to develop a plan for program improvement. Each such plan will contain:

- (a) a description of the technical assistance and program activities the Department will provide to enhance the performance of the eligible service provider;
- (b) a reasonable timetable to improve the school performance under the plan;
- (c) a description of vocational education strategies designed to improve the performance of the program as measured by the evaluation; and
- (d) if necessary, a description of strategies designed to improve the supplementary services provided to individuals who are members of special populations.

The Department of Education will, in conjunction with the service provider, annually review and revise the joint plan in order to improve performance and will continue to do so each consecutive year until the service provider sustains, for more than one year, fulfillment of the state and local program standards and outcome measures.

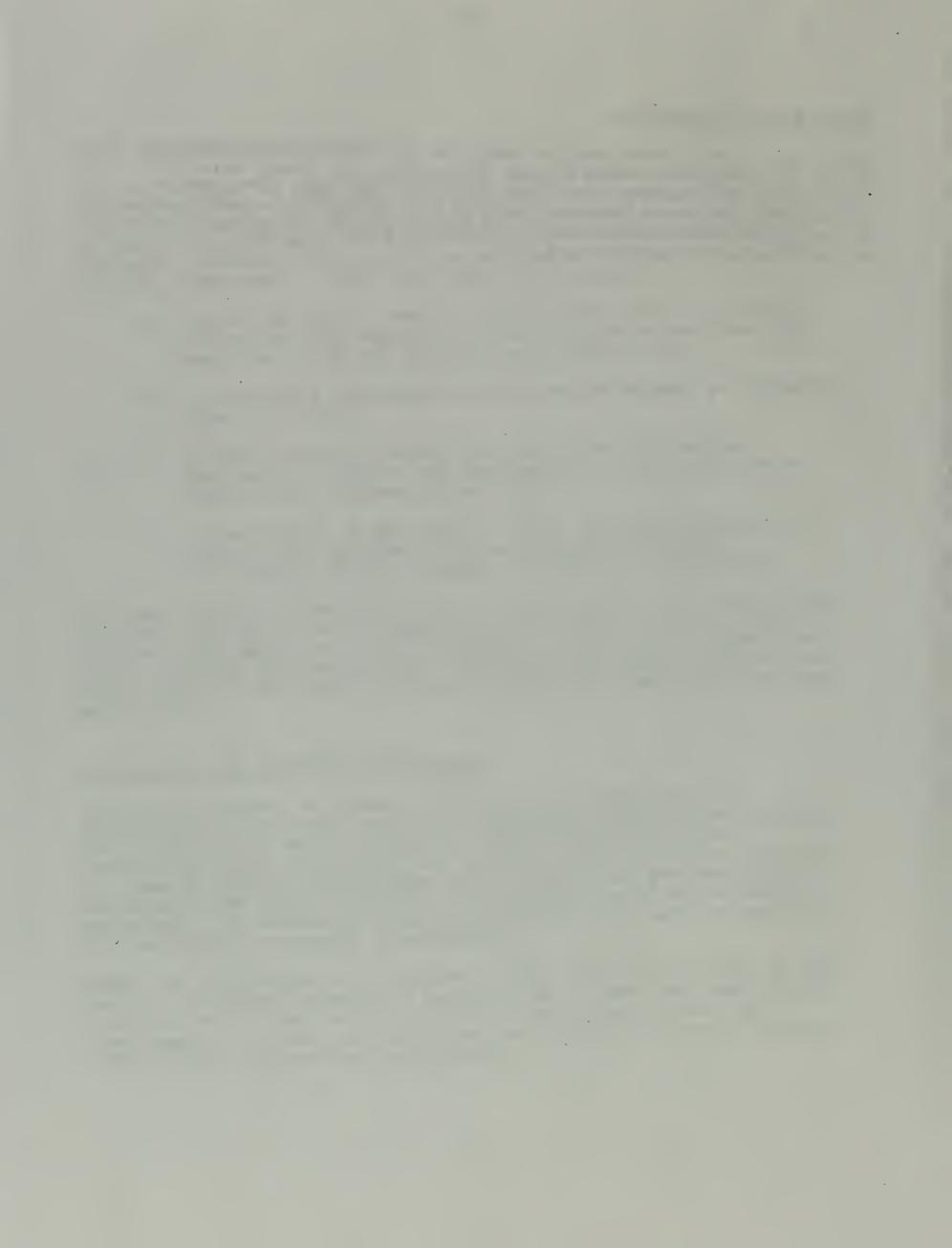
Monitoring and Technical Assistance

During the period of program operation, the Department of Education will provide technical assistance and monitor program activities on an outgoing basis. When appropriate, the Department staff will visit the program sites to review records, to observe program activities, and to interview program staff, administrative staff, students and parents, or other concerned personnel. If needed, follow-up visits will be made to measure the progress for program improvement.

Technical assistance by Department staff will be provided to the service providers whenever a need arises. Technical assistance includes activities for assistance in application writing, development of local plan and programs, clarification of laws and regulations, and program improvement.

Third Party Evaluation

Third party evaluation may be required in the last year of the State Plan period, during Fiscal Year 1994, for every service provider that averages more than \$100,000 per year of federal vocational education funds allocated from Title II. The Division of Occupational Education will establish a list of approved evaluators for this function.



PROGRAM STANDARDS AND OUTCOME MEASURES

The new Perkins Act provides significant impetus to a movement that the Division of Occupational Education, Massachusetts Department of Education initiated in 1988: The implementation of statewide program standards and outcome measures for federally funded vocational-technical education. The State of Massachusetts also updated the program standards and outcome measures for state approved secondary/postsecondary vocational-technical education programs under Chapter 74 of the General Laws of the Commonwealth.

As required by Public Law 101-392, the Division of Occupational Education requested nominations of individuals from several statewide associations and appointed from these nominations the State Committee of Practitioners on October 22, 1990. This new Committee includes students, teachers, local school district administrators, parents, and representatives of community colleges. The two elements of the Committee's mission are:

- (1) To review any state rules proposed for the administration of the Perkins Act in Massachusetts; and
- (2) To review the proposed statewide system of program standards and outcome measures and to make recommendations on modification of this system.

The first meeting of the State Committee of Practitioners was held on January 16, 1991. At this meeting, staff of the Division of Occupational Education presented a review of the new Perkins Act, and the mission of this Committee, and the current list of state rules under consideration. The Committee set their next two meeting dates, March 27, 1991 and May 29, 1991, and expressed their desire to continue an examination of state rules in March and then to review the features of program standards and outcome measures in May.

The deadline for the implementation of the statewide system is September 25, 1992. These program standards and outcome measures must then be used by all service providers during the local evaluation of programs. Service providers may request local modification of the statewide standards and measures based upon economic, geographic, demographic factors, or the characteristics of the population to be served. The following steps must be satisfactorily completed to receive approval for local modification of the statewide standards and measures:

- A. As stated in the Perkins Act, such local modifications must conform to the assessment criteria contained in the State Plan. It is important to note that the State of Massachusetts intends to conduct a new statewide assessment between July 1, 1991 and March/April, 1992 and that significant findings may lead to amendment of the State Plan for Fiscal Years 1992-1994. If State Plan amendment occurs, then requests for local modification of Statewide standards and measures must conform to the latest assessment criteria in the State Plan.
- B. The request for local modification must be approved by the service provider's Perkins Advisory Committee. This local Committee must include employer representatives and other workplace representatives, including organized labor in appropriate location and occupations, parents, students, and representatives of special populations.
- C. The final step in this process is review by the Associate Commissioner for Occupational Education, Massachusetts Department of Education. Approval or denial of request for local modification of statewide program standards and outcome measures will be in writing and will state the condition/reasons for the decision.

The statewide system of program standards and outcome measures will include:

- (1) measures of learning and competency gains, including student progress in the achievement of basic and more advanced academic skills;
- (2) one or more measures of performance, which shall include only -

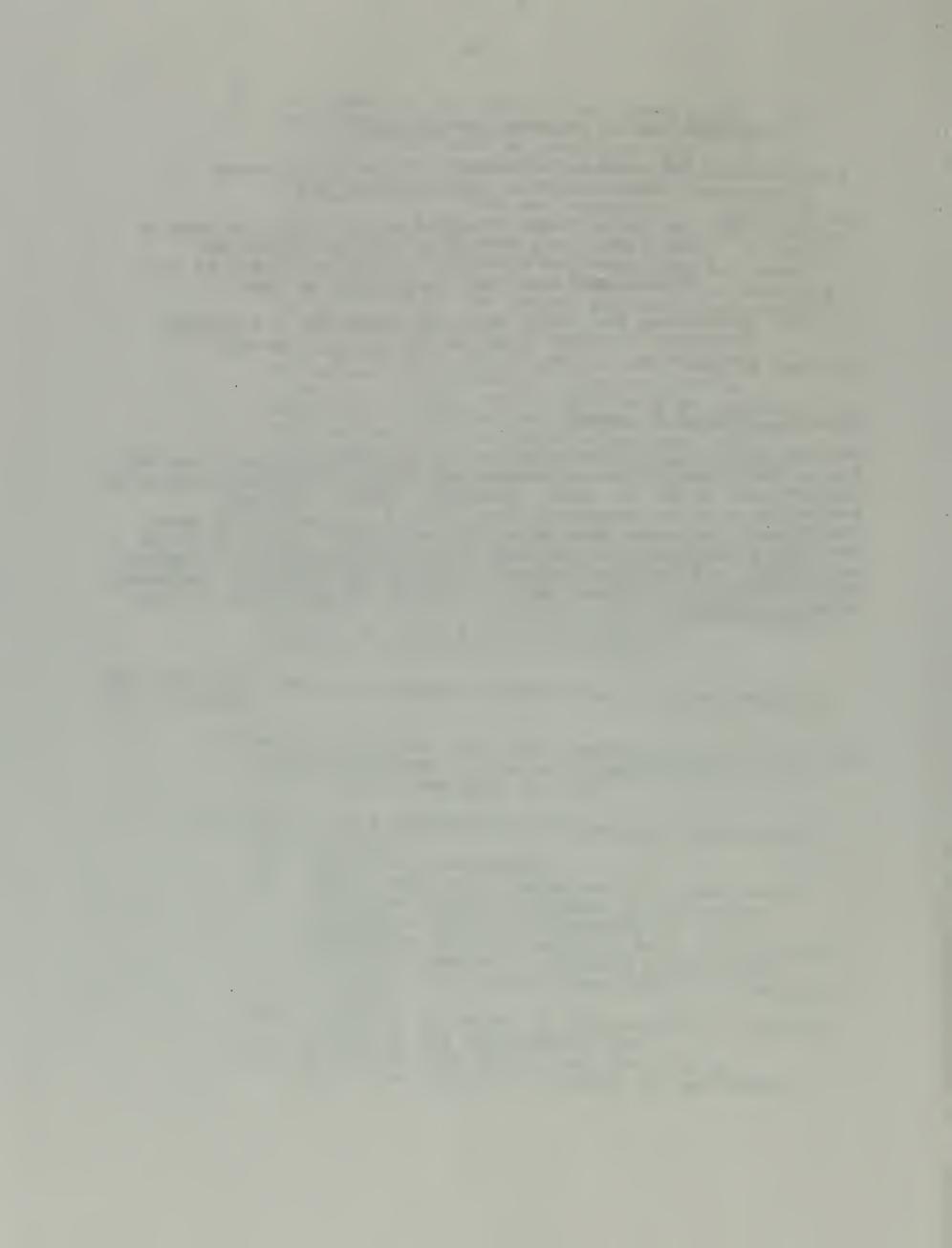
(a) competency attainment;

- (b) job or work skill attainment or enhancement including student progress in achieving occupational skills necessary to obtain employment in the field for which the student has been prepared, including occupational skills in the industry the student is preparing to enter;
- (c) retention in school or completion of secondary school or its equivalent; and
- (d) placement into additional training or education, military service, or employment;

- (3) incentives or adjustments that are -
 - (a) designed to encourage service to targeted groups or special populations; and
 - (b) for each student, consistent with the student's individualized education program developed under Section 614(a)(5) of the Education of the Handicapped Act, where appropriate; and
- (4) procedures for using existing resources and methods developed in other programs receiving federal assistance.

National Program Standards

Service providers will be required to complete at least the self evaluation phase of the national program certification process in occupational areas for which standards exist. The self evaluation must be completed within the first year of program improvement supported with P.L. 101-392 funds. The results of the self evaluation will determine additional needs for program improvement and national program certification must be completed within the first two years of use of P.L. 101-392 funds in the relevant program.



DELIVERY SYSTEM FOR VOCATIONAL-TECHNICAL EDUCATION

Division of Occupational Education Department of Education

The state administration of occupational and vocational-technical education is overseen by the State Board of Education.

The Division of Occupational Education, Massachusetts Department of Education is directly responsible for the various aspects of administering and supervising both federally funded and state approved (Chapter 74) occupational and vocational-technical education programs. The Division, heady by the Associate Commissioner, is organized by four bureaus that supervise and implement the many diverse activities associated with occupational programming:

Financial Management
Planning, Research, and Evaluation
Postsecondary Technical Education (managing Adult Training
Retraining and Tech-Prep programs)
Program Services (managing Sex Equity, Guidance and
Counseling, Consumer and Homemaking, and
Community-Based Organization programs,
Professional Development and
Vocational Student Organizations)

Due to the recent state budget crisis, the Massachusetts Department of Education has just restructured the Department service delivery system to maximize service functions with dwindling resources.

Service Providers

Massachusetts supports a locally based delivery system for occupational and vocational-technical education. In general, for city and town schools, the local administration rests with the staff appointed by an elected or appointed school committee or board of trustees. For regional schools with several communities as members, certain administrative decisions require the approval of two-thirds of the member cities and towns.

Chapter 74 of the Massachusetts General Laws, as amended by Chapter 731 of the Acts of 1988, governs state approved and state aided vocational-technical education programs in these areas: agriculture, allied health, automotive, construction, marketing, service occupations, industrial manufacturing, and technical. Occupational or "non-Chapter 74" programs are offered in the areas of business and office occupations, technology education (industrial arts), and consumer and homemaker. These programs are not subject to the special requirements of the Chapter 74 Regulations and are sometimes organized as individual courses.

The facilities where occupational and vocational-technical education programs are offered include locations in 220 school districts and 18 postsecondary institutions (community colleges and technical institutes). These facilities consist of a variety of organizational structures, ranging from an individual school in one city or town to a regional school with several cities and towns as members. Three county agricultural schools offer specialized programs for Essex, Norfolk, and Bristol counties. Statewide there are 26 regional vocational-technical schools and 27 city and town vocational-technical schools.

The Board of Regents for Higher Education and the Board's staff oversee the operations of the state's 15 community colleges.

Other service providers that receive federal vocational education funds are community-based organizations and correctional facilities. Community-based organizations usually work in conjunction with a school district or community college to provide support services to specific populations that are necessary to acquire skills training and vocational-technical education.

Involvement of Employer Community

Private sector representatives provide an important service to vocational-technical education through participation on program and general advisory committees. Each Chapter 74 program must have an active advisory committee with membership from business, industry, labor relevant to the occupation, and from parents and students. Each school that operates five or more Chapter 74 programs must have a General Advisory Committee that must include the chairman of each program advisory committee. Chapter 74 advisory committees make significant contributions to the quality of vocational-technical programming, for example: labor market conditions and trends, validation of tasks and competencies, equipment and facilities advise, career guidance and placement, professional development, community public relations, and program evaluation.

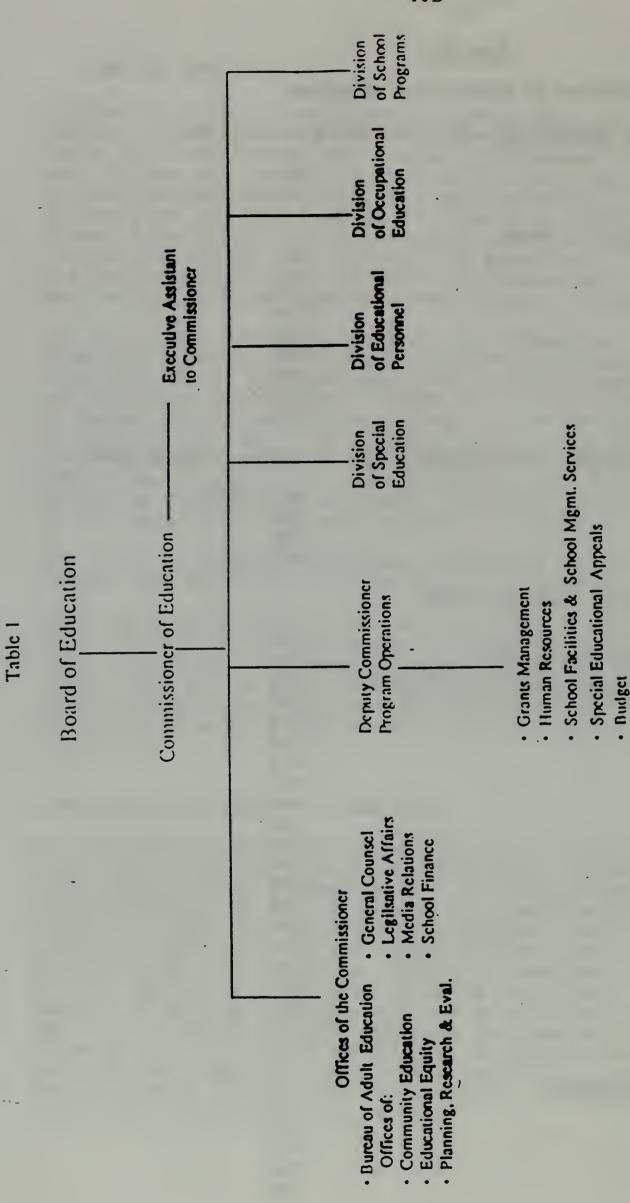
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DIRECTORY

June 13, 1991

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· Business Office

Equity

Policies For Promoting Education Equity

POLICIES AND PROCEDURES FOR INSURING EQUAL ACCESS TO VOCATIONAL EDUCATION FOR ALL INDIVIDUALS, ESPECIALLY "SPECIAL POPULATIONS" WHICH "INCLUDES INDIVIDUALS WITH HANDICAPS, EDUCATIONALLY AND ECONOMICALLY DISADVANTAGED INDIVIDUALS (INCLUDING FOSTER CHILDREN), INDIVIDUALS OF LIMITED ENGLISH PROFICIENCY, INDIVIDUALS WHO PARTICIPATE IN PROGRAMS DESIGNED TO ELIMINATE SEX BIAS, AND INDIVIDUALS IN CORRECTIONAL INSTITUTIONS, AS WELL AS FEMALES AND MALES" WHO DESIRE TO ENTER OCCUPATIONS THAT ARE NOT TRADITIONALLY ASSOCIATED WITH THEIR SEX, SINGLE PARENTS, DISPLACED HOMEMAKERS AND SINGLE PREGNANT WOMEN.

A. Policy Statement

- 1. It is the policy of the Board of Education of the Commonwealth of Massachusetts that all state residents have right of access to the public schools of the Commonwealth and equal enjoyment of the opportunities, advantages, privileges and courses of study at such schools without regard to race, color, sex, religion, national origin, English language proficiency or handicap. The Board has promulgated regulations to insure this right of access, and requires that the regulations be liberally construed for these purposes. (Chapter 622 of the Acts of 1971; Massachusetts General Laws Chapter 76, Section 5; 603 CMR 26.00; M.G.L. Chapter 71A; Chapter 71B.)
- 2. Furthermore, it is the policy of the Board of Education that equal access to vocational education is especially important, and consequently it has promulgated specific regulations to this end. All state-aided and regulated vocational education programs are required to submit their admissions criteria in writing to the Division of Occupational Education for review. Funding is contingent upon, among other factors, approval of the admissions criteria by the Division. All criteria that discriminate on the basis of sex, race, religion, color, national origin or handicap are prohibited. (Chapter 74 of the General Laws of Massachusetts Regulations, 603 CMR 4.12 (1). In addition, the Board specifically regulates the admissions practices of selective secondary vocational schools and programs, requiring that they admit qualified applicants of both sexes and all racial and ethnic groups in numbers proportionate to the existence of each such group in the secondary school population of the geographic area served by the school. (Ch. 622 Regulations, s.8.10 (603 CMR 26.08(10)).

B. Personnel

All personnel in the Department and Division are responsible for ensuring procedures for equal access are adhered to by the Department and the LEAs. The Division's Bureau of Program Services is staffed with personnel responsible for overseeing procedures related to equal access for special populations including individuals who participate in programs designed to eliminate sex bias and females and males entering occupations considered nontraditional for their sex. Full-time staff in the Equity Unit review Admissions Plans and data for vocational schools and programs with five or more programs statewide after the service delivery area occupational education team members have reviewed them and coordinates the sex equity provisions of P.L. 101-392. In administering the latter, the Bureau works closely with other bureaus (Post-Secondary and Research, Planning and Evaluation) to assess and recommend vocational programs and policies to overcome sex discrimination, bias and stereotyping. Additionally, the Equity Unit works with the respective bureaus in the implementation of two programs under Title II of the 1990 Vocational Education Act: The single parents, displaced homemakers and single pregnant women program, which emphasizes serving displaced homemakers and those in greatest financial need; and a sex equity program, which targets girls and women ages 14 to 25 (pursuant to section 222) to assist them in preparing to support themselves and their families.

C. Procedures

The procedures of the Division of Occupational Education to ensure equal access to public vocational education programs have been developed to comply fully with all state equal educational opportunity laws and regulations, and with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Education of the Handicapped Act, the Office for Civil Right (OCR) Guidelines for Vocational Education Programs, and P.L. 101-392.

1. Recipients of Federal Vocational Education Funds

a. All local education agencies which apply for P.L. 101-392 federal vocational education funds are required to submit a Local Plan to the Division of Occupational Education. This plan must contain a report on the number of individuals in each of the special populations including individuals who participate in programs designed to eliminate sex bias; contain a description of how the needs of individuals who are members of special populations including individuals who participate in programs

designed to eliminate sex bias and females and males entering occupations considered nontraditional for their sex will be assessed and description of the planned use of funds to meet such needs; describe how access to programs of good quality will be provided to students who are members of special populations including individuals who participate in programs nontraditional for their sex; provide assurances that the programs funded under this part shall be carried out according to the criteria for programs for each special population; describe the program evaluation standards the applicant will use to measure its progress; special populations including individuals who participate in programs designed to eliminate sex bias and females and males entering occupations considered nontraditional for their sex and procedures for rectifying inadequate service.

- All applications and competitive proposals for federal vocational education funds must contain the following before they are considered for processing: projected enrollments for all target populations including individuals who participate in programs designed to eliminate sex bias and females and males entering occupations considered nontraditional for their sex; a description of recruitment procedures for special populations including individuals who participate in programs designed to eliminate sex bias and females and males entering occupations considered nontraditional for their sex; an objective designed to reduce sex/ethnic bias, stereotyping and discrimination; an evaluation procedure for that objective; assurance that curricular materials used in the proposed project will be reviewed for sex/ethnic bias and stereotyping; an assurance that supportive services will be provided for students enrolled in programs that are nontraditional for their sex; and assurance that affirmative action hiring practices will be used.
- C. Staff members of the Division review all Local Occupational Education Plans, including the assessment of service to target/special populations including individuals who participate in programs designed to eliminate sex bias and females and males entering occupations considered nontraditional for their sex, using the results of state-agency audits, the computer-generated OCR Compliance Report, and other relevant materials.

- d. Staff members review all applications for federal vocational education funds according to the following procedure:
 - i. The results of the review of the Local
 Occupational Education Plan are related to the applications for federal funds, and evaluated;
 - ii. The Division's uniform, statewide procedure for developing and reviewing federal applications is observed;
 - iii. The Division's Grants Management Manual, which describes all equity requirements, and offers models and/or examples, is the basis of the review:
 - iv. The Division's Review Standards for P.L. 101-392 Applications list all requirements in the Manual, including those for equity and outreach to individuals who are members of special populations including individuals who participate in programs designed to eliminate sex bias and females and males entering occupations considered nontraditional for their sex.
 - v. Each application is reviewed by three staff members. A recommendation to fund requires the signatures of all three reviewers certifying that all requirements have been met; and
 - vi. There must be certification, by the signature of the Bureau Director that all equity requirements have been met before funding is recommended.
- e. The Division will monitor all federal projects for equity by requiring each funded project to file Progress Reports that contain actual enrollment figures for special populations including individuals who participate in programs designed to eliminate sex bias and females and males entering occupations considered nontraditional for their sex. Further federal funds may be withheld from any project whose actual enrollment figures deviate significantly from project enrollments. The final report filed for each project reports the gender of all staff hired with federal funds.

2. Selective Secondary Vocational Schools

- a. The admissions plans of these schools, which are the primary deliverers of intensive skills training programs at the secondary level, are monitored closely by the Division. The Bureau of Program Services is responsible for supervising the monitoring of Admissions Plans. The Equity Unit within the Bureau of Program Services is responsible for coordinating statewide monitoring and directs the admissions activities of Admissions Coordinators. These activities focus on providing technical assistance to schools in implementing approved Admissions Plans.
- b. An approved Plan includes, among other things, an approved Admissions Policy, approved procedures for review of admissions materials for bias and stereotyping, assurance of the availability of translations of admissions materials in appropriate languages, maintenance of complete admissions files, etc.

Once approved, the Plan is incorporated into the instruments used to evaluate Chapter 74 programs, and becomes the standard for evaluating compliance with Section 4.12 of the Chapter 74 Regulations.

3. Chapter 74 Programs

- a. The Regulations for Chapter 74 include "admissions criteria" among the ten "approval factors" evaluated by the Division in order to approve programs. The Division's regular evaluation of these programs includes an investigation and evaluation of the conditions of admission.
- b. The Division has extended the Admissions Update process to area comprehensive high schools with five or more Chapter 74 programs.
- c. In accordance with the Massachusetts Methods of Administration in Response to the Office for Civil Rights Guidelines for Vocational Education Programs, the Department of Education has instituted an annual review procedure for the compilation and distribution of a computer-generated Civil Rights Compliance Review. It is a comprehensive analysis of enrollment data for all secondary vocational education programs in the Commonwealth. Through coordinated effort the department will review the data and select local educational agencies for onsite monitoring.

4. Sex Equity Grants

The Division annually issues statewide Requests for Proposals (RFP's) for sex equity projects which focus on recruiting, retaining and placing individuals in vocational technical programs not traditionally associated with their sex. A particular emphasis is placed on programs for girls and women ages 14-25 to enable them to prepare to support themselves and their families. Examples of proposals include:

- a. Hands-on exploratory programs in and the development of nontraditional programs.
- b. The formation of school-wide Equity Teams to conduct ongoing assessments of curricula and training in equity issues.
- c. The development of nontraditional peer support groups, parent outreach efforts and nontraditional recruitment materials and outreach to women, concerning vocational education and employment opportunities for women (including opportunities for careers as technicians and skilled workers in technical fields and new and emerging occupational fields).

Sex Equity unit staff of the Division provide ongoing technical assistance to schools and projects. Every project receives at least one onsite monitoring visit. Model recruitment and retention audiovisual products developed under sex equity funding are available on loan from the Massachusetts Vocational Curriculum Resource Center.

5. Technical Assistance

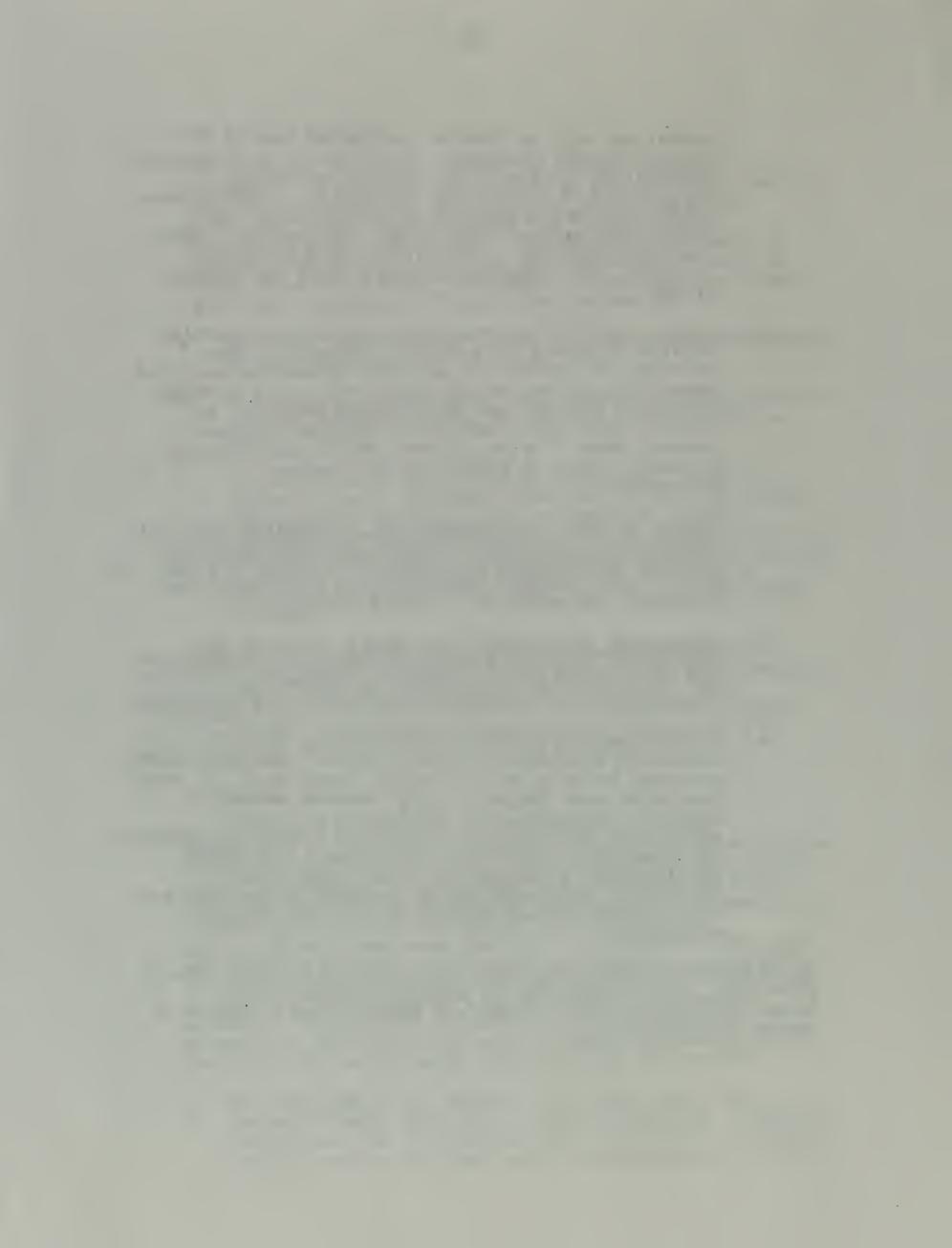
The Division recognizes that quality technical assistance to schools and staff is critical in achieving educational equity. To this end, in conjunction with school personnel, it develops and disseminates model programs for the recruitment, retention and placement of special populations including individuals who participate in programs designed to eliminate sex bias and females and males entering occupations considered nontraditional for their sex and activities to increase access for women and to increase male and female students' enrollment in nontraditional programs. A summary of the following equity resources developed by the Division is included with each Sex Equity RFP:

a. The You Can Do It series, with fact packs and posters translated into several languages, suggests techniques for recruiting Black. Hispanic, limited English-proficient and handicapped students of both

sexes, as well as females and males into nontraditional programs. In addition to background information on the participation of target populations in vocational education, a Recruitment Guide includes step-by-step instructions for conducting various recruitment activities. These include producing a slide-tape, writing press releases, and speaking before parent and employer groups.

- b. Making It Work, a vocational education inservice package focusing on drop-out prevention, was selected as one of ten National Dissemination 1984 Exemplary Product Award recipients. The package, including trainer and participant manuals, is divided into three modules: "Conquering Your Dropout Woes," "Placing Your Vocational Education Students," and "A Blueprint for Student Achievement."
- C. Future Shares: Strategies for Increasing Sex-Fair Educational Practices in Nontraditional Training Courses is designed to assist vocational teachers in coping with changes required once nontraditional students are enrolled in their classes.
- d. Admissions Strategies That Work: A Guide For Vocational Educators presents workable strategies for developing and implementing admissions procedures that are useful, reliable and equitable.
- e. Further technical assistance efforts include inservice training in equity issues including equity proposal writing at the Annual Conference, or other Nontraditional Support Group Leaders Network Meeting, assistance in developing equitable admissions policies for selective vocational schools and programs, curriculum development and staff development in competency-based vocational education, and technical assistance in forming and maintaining support groups for nontraditional students.

It is expected that all school districts will cooperate in providing, on a timely basis, access information on vocational education programs and services to students in grades 7 through 12.



CAREER GUIDANCE AND COUNSELING

Title III, Part C

Note: No federal funds have been appropriated for this part of P.L. 101-392 for Fiscal Year 1992. All service providers will be required to address this component in the Local Application/Plan.

All service providers are required to offer career guidance and counseling services to students enrolled in programs and to potential enrollees through outreach and assessment. Placement and follow up activities are components of career guidance and counseling.

Service providers will describe in the Local Application the career guidance and counseling activities that they offer to students and to present plans for meeting any deficiencies in these services during the period of this State Plan.

The Division of Occupational Education will provide leadership through the resources of professional staff and particularly through an educational specialist qualified by training and experience in career quidance and counseling. This staff person will sponsor and participate in local and statewide professional development activities related to career guidance and counseling. This educational specialist is one of two Division of Occupational Education staff who coordinate with representatives of other state agencies on the State Occupational Information Coordinating Committee (SOICC). A technical advisory group to the Committee members meets quarterly to advise the SOICC staff on the development of products and the organization of training on occupational information. Counsellors and other staff from the public schools have received training every year on new products from the SOICC and the latest version of labor market data has been made available and meaningful to these school staff members. The SOICC staff have also presented this information to meetings of associations of school counsellors.

COORDINATION ACTIVITIES

The State Department of Education through the Division of Occupational Education has coordinated with a large number of State agencies in order to develop joint programs, to share resources and to assure that there is not a duplication of services. This cooperation leads to the development of a progressive continuum of resources.

The Commissioner of the Department of Education is an active member of the MassJobs Council - which is the coordinating board for Employment and Training activities for the state. Department staff have played an important role in assisting the council to develop a long range Employment and Training Plan. The Division of Occupational Education is represented in a number of other State Committees and Councils.

The following examples of coordination activities illustrate the scope and depth of our efforts. This is not meant to reflect all our activities but highlight the strengths of our coordination and collaboration.

- The Division coordinates with the Department of Employment & Training, the Department of Labor & Industries Division of Apprentice Training, U.S. Department of Labor Federal Bureau of Apprentice Training, the State Apprenticeship Council and the private sector including local Joint Apprenticeship Training Committees and employer associations for the development and delivery of apprenticeship related instruction programs by school districts.
- The Division coordinates with the Department of Public Welfare, local Regional Employment Boards (REBs), The Board of Regents of Higher Education staff, the Massachusetts Rehabilitation Commission, and the Adult Basic Education network in the development of adult training retraining projects.
- The Division consults with local school districts, community colleges and the Board of Regents staff to develop and fund secondary/postsecondary articulation agreements.
- The Division coordinates with the Department of Employment & Training, school districts, community colleges and community-based organizations in the development and delivery of skills training and training support programs for adults in the Greater Boston Region in order to prepare them for off-site, non-construction jobs associated with the megaprojects to be undertaken in the Boston area in the 1990's.

- The Division coordinates with the Comprehensive Offender Employer Resource System (COERS) for the delivery of training programs for inmates incarcerated in the County Houses of Correction and the Massachusetts Department of Correction facilities.
- The Division works with the Executive Office of Human Services and the Office for Children to develop and issue a joint RFP and subsequently offer day care teacher skills upgrade programs in four community colleges.
- The Division works with the Executive Office of Labor's Industrial Service Program to develop an RFP for dislocated worker training programs. One school district and three community colleges collaborated with local Worker Assistance Centers and Rapid Response Teams to develop and implement skills training programs for dislocated workers in response to the RFP.
- The Division coordinates with the Federal Regional Office of Health and Human Services, to manage an RFP and delivery system for providing support services and training to Head Start families in five school districts.
- The Division works with the Executive Office of Human Services, the Departments of Mental Health and Mental Retardation and Bay State Skills Corporation to manage and issue a joint RFP for skills training programs designed to prepare adults to assume positions as Mental Health or Mental Retardation Assistants in private residences and state facilities for the mentally ill. Programs are provided by ten community colleges.
- The Division consults with Bay State Skills Corporation Bay State Centers for Displaced Homemakers regarding educational and occupational programs for single parents, pregnant and parenting teens, homemakers and displaced homemakers offered by the fifteen community colleges, Franklin Institute and Quincy College.
- The Department has developed an Interservice Agency Agreement with the Department of Public Welfare to provide vocational and adult basic education services to welfare recipients. This activity will be expanded in 1992.
- The Division of Occupation will continue to work with the Board of Regents to coordinate the review of Postsecondary programs at community colleges.

- The Division of Occupational Education will continue to coordinate with Bay State Skills Corporation to share resources of support services and skills training for Single Parents and Displaced Homemakers.
- The Department of Education will continue to participate in the Youth Policy Council: A group that is a subcommittee of the MassJobs Council and who oversee the 8% set-aside for education coordination under the Job Training Partnership Act.
- The Division of Occupational Education will continue to work with the Executive Office of Economic Affairs and the Executive Office of Labor, and the Industrial Services Program to provide services for dislocated workers.
- The Division of Occupational Education will work closely with the Department of Correction to assist in the development of programs for incarcerated individuals.
- The Division of Occupational Education will continue to be a partner with other state agencies in the Massachusetts Occupational Information Coordinating Committee.
- The Division of Occupational Education will continue to work with the Department's Division of Special Education to coordinate activities of the education of the Handicapped Act with vocational-technical education, including P.L. 101-392.
- The Division of Occupational Education will continue to work with the Chapter 1 office of the Department to coordinate activities of Chapter 1 with vocational-technical education, including P.L. 101-392.
- The Division of Occupational Education will continue to work with the Massachusetts Department of Employment and Training to coordinate activities of the Job Training Partnership Act with vocational-technical education, including P.L. 101-392.

STUDENT ORGANIZATIONS

Vocational student organizations are defined as those organizations for vocational education students whose activities are an integral part of the secondary and postsecondary instructional program.

Five vocational student organizations are currently operating in the Commonwealth: Distributive Education Clubs of America (DECA), Future Farmers of America (FFA), Future Homemakers of America/Home Economics Related Occupations (FHA/HERO), Office Education Association (OEA), and Vocational Industrial Clubs of America (VICA). These organizations work to improve the quality and relevance of instruction, develop student leadership, enhance citizenship responsibilities, overcome sex and race discrimination and stereotyping, and serve students of special populations. Through the support and cooperation of business and industry, job placement and career opportunities are also enhanced.

SECONDARY SCHOOL PROGRAMS

Title II, Part C

The majority of funds received by Massachusetts under Public Law 101-392 will be distributed to service providers that offer programs and services to secondary school students. In addition to the seventy-five percent (75%) of Title II, Part C funds, secondary schools will be the service providers for Consumer and Homemaking grants (Title III, Part B), and for Sex Equity grants (Title II, Part B). Grants to Community Based Organizations (Title III, Part A) must be joint applications with secondary schools and the new Tech Prep grants (Title III, Part E) will be issued to consortia of community colleges with secondary schools.

- 1. The distribution of funds under this Act directs money to cities, towns, and regional vocational-technical school districts that serve the economically disadvantaged (70% of funds), students with individual education plans under the Education of the Handicapped Act (20% of funds), and students enrolled in schools and adults enrolled in training programs (10% of funds).
- 2. The Massachusetts structure for public high schools includes:
 - a. Comprehensive high schools serving individual cities and towns that may offer programs(s) of the instruction qualified under this Act;
 - b. Regional comprehensive high schools serving two or more cities or towns that may offer programs) of instruction qualified under this Act;
 - c. Regional vocational-technical school districts formed by cities and towns to provide vocational-technical education, including academic and related subjects, to secondary school students enrolled full-time in the regional vo-tech school. Postsecondary and adult students are also served in the 26 regional vo-tech schools that incorporate 230 cities and towns in the Commonwealth.

The school committee for these districts consist of representatives of the member cities and towns.

- d. Vocational-technical high school serving individual cities and towns that offer occupational, academic, and related subjects to students enrolled full-time in these schools
- e. Three county operated agricultural vo-tech schools; and

f. Two cities that operate separate public school districts under the city governance structure: One school district is dedicated to vocational-technical education, including occupational, academic, and related subjects presented to students enrolled full-time in Grades 9-12 or Grades 9-14 and a separate school district offers K-12 comprehensive education and may offer some programs that meet the P.L. 101-392 requirements. Each of the two school districts in each of these two cities has a separate school committee.

This complex and varied governance structure must be sensibly aligned with the new Perkins Act so that students receive quality vocational-technical education that meets the requirements of the federal Act and so that special populations receive priority attention in this regard.

Therefore, for the purposes of the administration of the Perkins Act in Massachusetts and especially the implementation of Section 231(d), Allocations to to Area Vocational Education Schools, the following designations will be used:

- 1. The twenty-six (26) regional vocational-technical school districts and the local school districts of their member cities and towns will form a consortium for the purpose of receiving funds under this Section 231(d) of P.L. 101-392) and the rest of the steps outlined in Section 231(d) will be followed so that these federal vocational education funds will serve economically disadvantaged and handicapped students in qualified programs in both regional and local school systems.
- 2. In the two cities that operate two distinct school systems, the system dedicated to vocational-technical education will be designated an area vocational education school under Section 231(d) and federal funds will be distributed according to the consortium arrangement defined in Section 231.
- 3. Cities and towns that are not members of regional votech school districts and that offer programs that meet the Perkins Act requirements, will receive funds according to Section 231(a).

The following program requirements are included with the new Perkins Act:

A. No local educational agency shall be eligible for a grant under this part unless the amount allocated to such agency is at least \$15,000.

- B. Each service provider that receives a grant under this part shall use funds provided under such grant to improve vocational-technical education programs, with the full participation of individuals who are members of special populations, at a limited number of sites or with respect to a limited number of program areas.
- C. Each service provider that receives a grant under this part shall give priority for assistance under this part to sites or programs that serve the highest concentrations of individuals who are members of special populations.
- D. Funds made available under a grant under this part shall be used to provide vocational-technical education in programs that -
 - (a) are of such size, scope, and quality as to be effective"
 - (b) integrate academic and vocational-technical education in such programs through coherent sequences of course so that students achieve both academic and occupational competencies; and
 - (c) provide equitable participation in such programs for the special populations consistent with the assurance and requirements in Section 118 of the Act.
- E. Service providers under this part must first address the needs identified through the statewide needs assessment conducted for this State Plan. Each service provider will address these items in the Local Application/Plan and will report on their plans to meet these needs as they exist in the programs/services of the secondary schools to be funded. Federal vocational-technical education funds available to the school district under this part may be used to address these needs or if the needs are met or another source of support is available to the school district, then the Perkins Act funds may be applied to additional local school district needs as related to this federal Act.
- F. Cities and towns that are not members of a regional votech school district and that do not recieve at least \$15,000 of Basic Grant funds may join a consortium or form a consortium for these purposes.
- G. Occupational education programs in comprehensive high schools must be organized so that students are enrolled in a minimum of ten periods per week of occupationally focussed study.

POSTSECONDARY/ADULT

Funding Techniques:

Formula as described in Perkins Act - Pell grant count in vocational-technical programs:
Minimum grant amount as prescribed by Perkins Act:
\$50,000
Students must be taking at least six semester hours in a career program.

Eligible Recipients:

Public Community Colleges

LEAs - (Public School Districts with five or more stateapproved vocational technical programs)

Purpose of Funds:

To improve occupational skills training and related vocational technical education.

Goals:

I. Target Populations

Recipients must describe and define how they will recruit and serve special populations.

II. Program Design:

Programs must describe the following services or activities.

- 1. Outreach
- 2. Recruitment
- 3. Assessment
- 4. Occupational Skills Training
- 5. Related instruction
- 6. Counseling and other support services
- 7. Job development and placement
- 8. Follow-up of program enrollees
- 9. Program evaluation

Programs must describe coordination activities. All programs must coordinate with other job training agenices and with Adult Basic Education programs.

Training must be in an area that has high labor market demand.

POSTSECONDARY/ADULT

III. Evaluation

Programs will be evaluated on:

- 1. Job placement rates
- 2. Placement in further training
- 3. Placement in further education
- 4. Other factors identified in statewide system of program standards and outcome measures, to be implemented by September 25, 1992 and to govern Fiscal Year 1993 1994 evaluation.
- 5. Programs must meet all pertinent requirements of the Perkins Act and this State Plan.
- 6. The service provider's Local Application will present the local plan for meeting the needs identified in the statewide assessment of vocational-technical education, including the use of Perkins funds to meet these needs.

SINGLE PARENT/DISPLACED HOMEMAKERS/SINGLE PREGNANT WOMEN

Funding Techniques:

Competitive Bid Process

Eligible Recipients:

Public Community Colleges

LEAs - (Public School Districts with five or more state-approved vocational technical programs)

Consortia of these institutions

Use of Funds:

To provide occupational training and education services for single parents, displaced homemakers and single pregnant women. Programs will provide comprehensive services for those individuals who need these services in order to gain marketable employment skills. Programs will target single parents, homemakers, and single pregnant women who are economically disadvantaged.

Goals:

I. Target Populations

Programs must document how they will target and serve those individuals who are economically disadvantaged and educationally disadvantaged. This would include descriptions of outreach techniques and special support services that are offered. Proposals must define economically disadvantaged by Pell grant eligibility, income must fall within the Federal poverty guidelines and be eligible for Public Assistance, (displaced/unemployed workers). Special consideration will be given to displaced homemakers who because of divorce, separation, or the death or disability of a spouse, must prepare for paid employment.

II. Program Design:

Program description must include a complete description of services to be provided. These service must include:

- Academic Support related to the skills training
- Occupational Skills Training
- Counseling and other support services

Institutions are encouraged to make cooperative arrangements with other agencies or community-based organizations. It is not necessary for the institution to directly provide all the services that are offered.

Skills training must be in occupational areas where strong labor market demand is demonstrated.

Occupations selected must provide high wages and health care benefits.

All programs must describe the academic and occupational assessment that will be used to develop an individual education and training plan for each student. Plans must identify what support services the individual requires and how they will be obtained. The occupational assessment must include information on the full range of high growth occupations available in the economy.

Programs must coordinate and collaborate with agencies and institutions that have related responsibilities and resources.

III. Education, Employment and Training Plan

Following an assessment - an education employment and training plan must be developed for each individual. This plan must include:

- 1. Educational goal with timelines
- 2. Occupational training goals including timelines
- 3. Counseling services needed
- 4. Support services and how they will be provided
- 5. Long term education and training plan i.e., Associate Degree, B.S.

SEX EQUITY PROGRAMS

Title II, Part A, Section 222

Purpose

The State of Massachusetts will designate one staff member within the Division of Occupational Education to carry out the duties assigned to the sex equity coordinator under this Act, as described in Section 111(b)(1) of the Act.

This coordinator will use a competitive bid process to distribute funds under this section to qualified service providers, ensuring that each grant under this section is for a program that is of sufficient size, scope, and quality to be effective. The sex equity coordinator will develop procedures for the collection from service providers that receive funds under Section 222 of data sufficient to evaluate the effectiveness of these programs.

Use of Funds

The following activities will be supported through this competitive bid process:

- (1) Programs, services, comprehensive careers, guidance and counseling, and activities to eliminate sex bias and stereotyping in secondary and postsecondary vocational-technical education;
- (2) preparatory services and vocational-technical education programs, services and activities for girls and women, aged 14 through 25, designed to enable the participants to support themselves and their families; and
- (3) support services for individuals participating in vocational-technical education programs, services and activities.

PROGRAMS FOR CRIMINAL OFFENDERS

Title II, Part B, Section 225

The State Board of Education designates the Massachusetts
Department of Correction to administer vocational-technical
education programs assisted under this Act for juvenile and adult
criminal offenders in correctional institutions in the State,
including correctional institutions operated by local
authorities.

As required by the federal Act, the Massachusetts Department of Correction will submit a Local Application to the Division of Occupational Education for the use of these funds.

The Massachusetts Department of Correction, in carrying out a vocational-technical education program for criminal offenders, will give special consideration to (a) providing services to offenders who are completing their sentences and preparing for release; and (b) providing grants for the establishment of vocational-technical education programs in correctional institutions that do not have such programs. Under the provisions of the Perkins Act, the Massachusetts Department of Correction will also (a) provide vocational-technical education programs for women who are incarcerated; (b) improve equipment; and (c) in cooperation with eligible recipients, administer and coordinate vocational-technical education services to offenders before and after their release.

The Division of Occupational Education will coordinate with the Massachusetts Department of Correction to ensure that appropriate curriculum and personnel development resources are available to vocational-technical educators in the programs to serve the incarcerated.

SUPPORT PROGRAMS BY COMMUNITY-BASED ORGANIZATIONS

Title III, Part A of P.L. 101-392

Purpose

Funds available under this part of the Act will be made available through a competitive bid process to joint applications from community-based organizations and school districts that (a) promote outreach programs that facilitate the entrance of youth into a program of transitional services and subsequent entrance into vocational education, employment, or other education and training for an occupation; (b) provide transitional services such as attitudinal and motivational prevocational programs; (c) provide special prevocational programs targeted to inner city youth and limited English speaking youth; (d) provide assessment of students' needs in relation to vocational—technical education and the workplace; or (e) provide guidance and counselling to assist students with occupational choices and with the selection of a vocational—technical education programs.

Use of Funds

All of the funds available to the state under this part will be distributed through a competitive bid process to joint applications from community-based organizations and local and regional school districts. Priority for use of these funds will be to provide the support services necessary for inner city youth, and including limited English proficient youth, to succeed in quality vocational-technical education programs.

Priority for the award of grants under this part will be provided for joint applications with a school district with a high number of poor and low achieving students as identified in the statewide needs assessment for this State Plan.

CONSUMER AND HOMEMAKING EDUCATION

Title III, Part B of P.L. 101-392

Purpose

Funds available to the State under this part of the federal Act will be made available to school districts on a competitive Request-For-Proposal basis to (a) meet the educational needs of pregnant and parenting teenagers, and (b) support the demonstration of innovative and exemplary projects, including through professional development activities.

Use of Funds

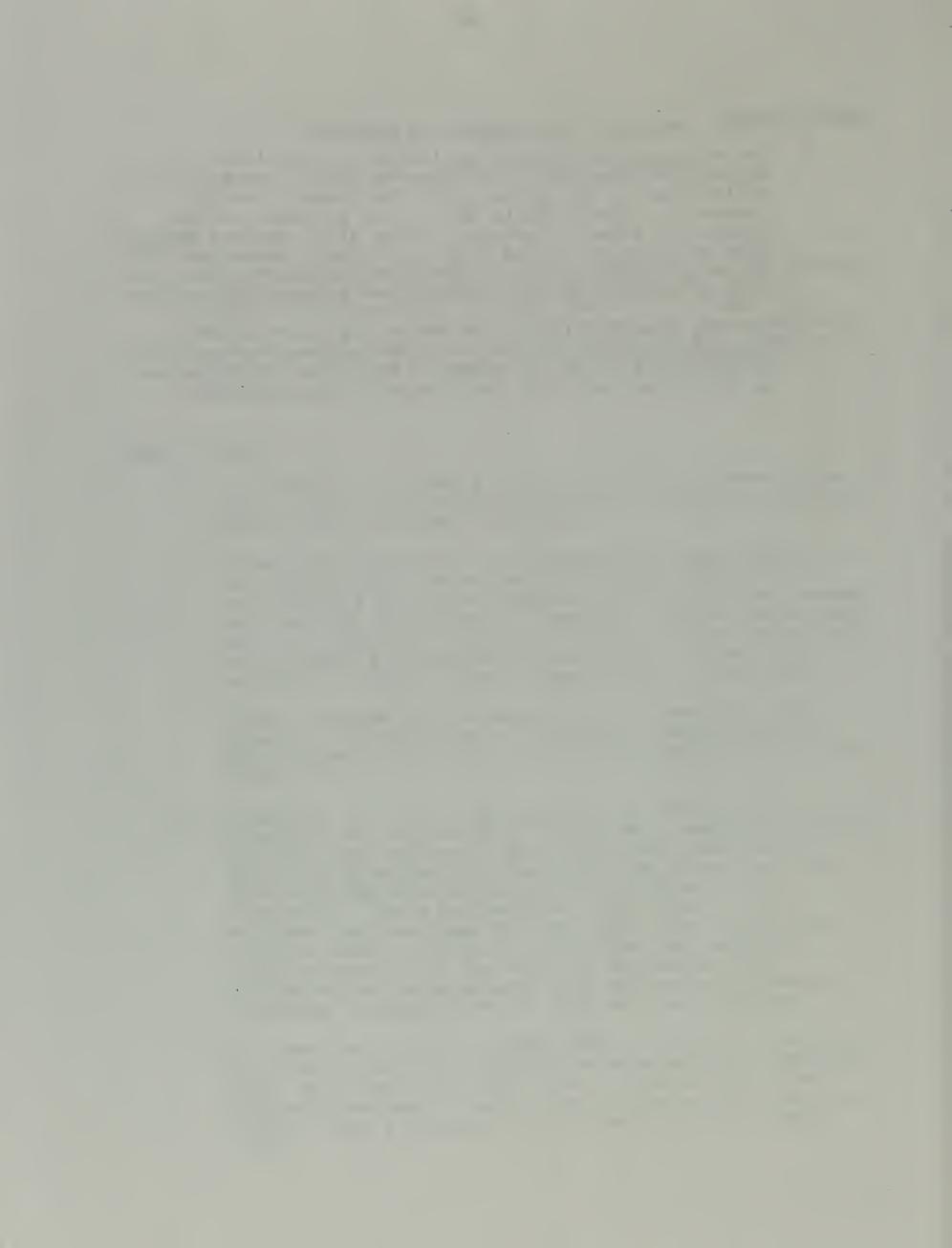
- 1. The State will reserve six (6) percent of these funds to be used for state administration of projects, services, and activities under this part.
- 2. A maximum of fourteen (14) percent of these funds will be reserved for the support of grants, primarily to institutions of higher education, to conduct and manage professional development, research, program evaluation and other special functions related to the improvement of consumer and homemaking education. These grant awards will result from a competitive bid process.

These programs will concentrate on innovative and exemplary projects and will promote the sharing of experience and information cited in Section 313 of the federal Act.

- 3. A minimum of eighty (80) percent of these funds will be reserved for the award of grants on a competitive basis to local and regional school districts that offer qualified programs and that meet the objectives and review criteria established in the Request-For-Proposals. These projects will be primarily for services and programs that meet the educational and related needs of pregnant and parenting teenagers. These projects will be required to demonstrate collaborative arrangements with one or more community agencies, including health care delivery systems.
- 4. At lease one third of these funds available under Title III, Part B will be expended in economically depressed areas or areas with high rates of unemployment for programs designed to assist consumers and and to help improve home environments and the quality of family life.

Special Notes

- 1. The state administrators qualified by experience and educational preparation in home economics education will be involved in the planning of the competitive bid process for these grants and in the proposal review process to select grantees. These staff members will also be involved in the work of advisory committees for projects funded to provide professional development and related activities for consumer and homemaking programs.
 - 2. The state administrator for the elimination of sex stereotyping and sex bias will be involved in the review of proposals to select grantees for these programs and will provide technical assistance to the projects.



TECH-PREP EDUCATION

Funding Techniques:

Competitive Bid Process
Funding Considerations will include assurances that
there is an equitable split between urban and rural
areas.
Special preference for programs with strong employer
partnerships.

Eligible Recipients:

Consortia of institutions of higher education eligible under P.L. 101-392 and local educational agencies - every consortia must include a public school district with at least five or more state approved vocational technical programs.

Purpose of Funds:

To provide grants to a consortia of public school districts with five or more state approved vocational technical programs and public community colleges for the operation of four year tech-prep education programs. Programs will lead to an associate degree or a two year certificate.

To provide for the development of strong comprehensive links between secondary vocational programs and community colleges and other instituions of higher education.

Program Criteria:

Programs will:

Develop a common core of required proficiencies in mathematics, science, communications and technologies.

Include the development of tech-prep curricula related to the specific needs of the participants and the requirements of the occupation.

Emphasize training for teachers - training programs should include joint training on how to effectively implement newly developed tech-prep curricula; including Principles of Technology and other applied academics.

TECH-PREP EDUCATION

Include training programs for counselors designed to assist counselors in recruitment of students and in assisting students so that they can successfully complete the program and obtain appropriate employment.

Provide services to assure that special populations are provided access to the tech-prep programs and provided with the necessary support services to assure their successful completion of the program.

Special Consideration:

All programs must describe how they will assist program completers in obtaining related employment and/or successful transfer to a four year program.

Programs should address the special needs of out-ofschool youths and those in school youths who are at risk of dropping out.

Programs should demonstrate collaboration with business, industry, and labor.

STATE LEADERSHIP PROGRAMS

Title II, Part A, Section 201

The State will reserve funds available under this section of the Act to support the following required activities:

- "(1) Professional development activities for teachers and other staff working with vocational education students, including corrections educators and counselors, and educators and counselors in community-based organizations, including inservice and preservice training of teachers in state-of-the-art programs and techniques, including integration of vocational and academic curricula, with particular emphasis on inservice and preservice training of minority teachers;
- (2) Development, dissemination, and field testing of curricula, especially -
 - (A) curricula that integrate vocational and academic methodologies; and
 - (B) curricula that provide a coherent sequence of courses through which academic and occupational skills may be measured; and
- (3) Assessment of programs conducted with assistance under this Act, including the development of -
 - (A) performance standards and measures for such programs; and
 - (B) program improvement and accountability with respect to such programs."

The following authorized activities will also be supported by funds reserved under Section 201:

- (1) The promotion of partnerships among business, education, industry, labor, community-based organizations, and governmental agencies for the purpose of enhancing the awareness and advancement of quality vocational-technical education in the state;
- (2) The support for tech prep education as described in Section 344;
- (3) The collection and reporting of data on vocationaltechnical education.

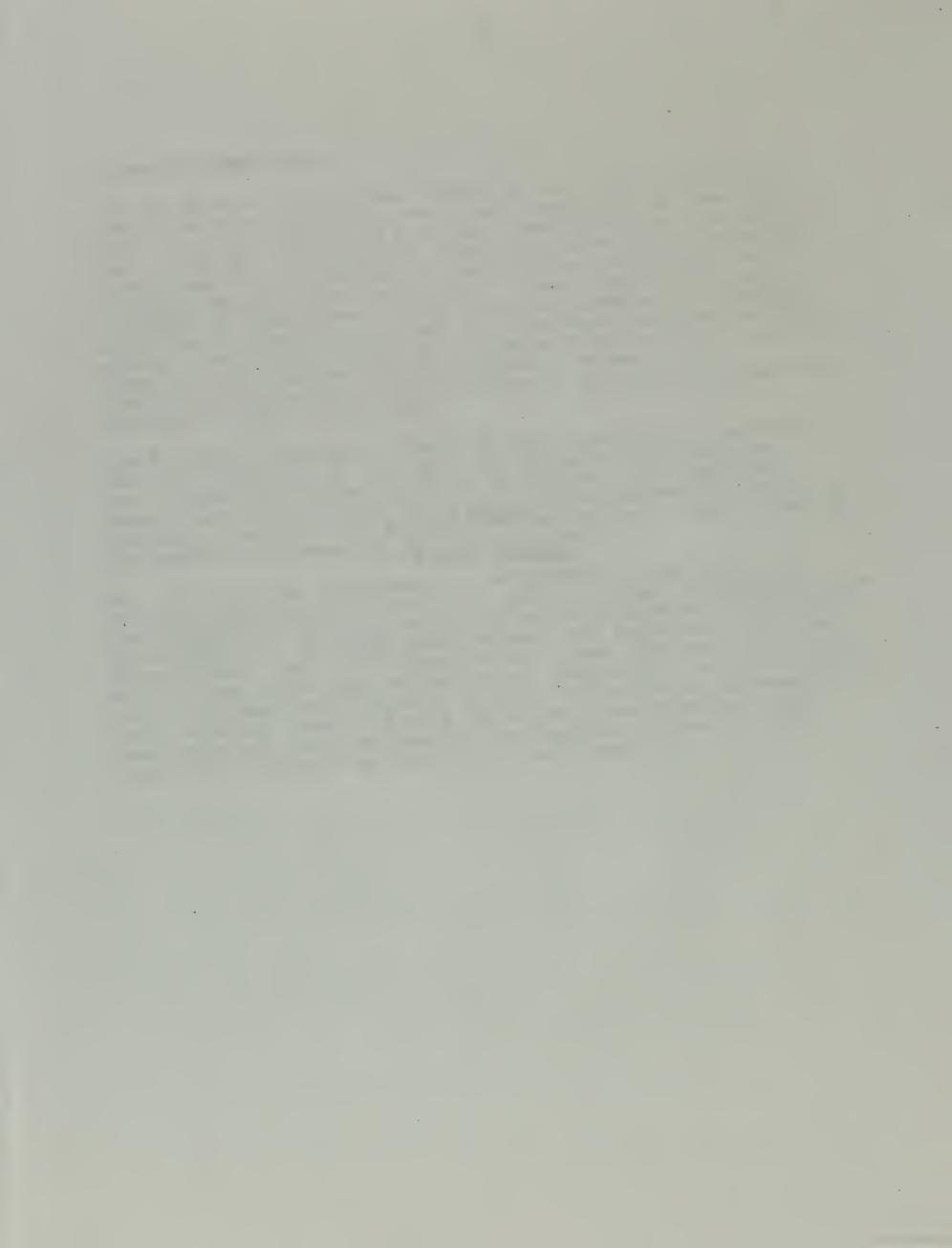
TECHNICAL COMMITTEES

The Division of Occupational Education will facilitate the operation of at least four technical committees as described in Public Law 101-392 during the three year period of this State Plan. The four occupational areas covered by these technical committees will be automotive, construction, drafting, and graphic communications (printing). These occupational areas represent a large share of enrollment in vocational technical education in Massachusetts and also represent occupations that employ significant numbers of residents of this state. Finally, these are four occupational areas that continue to be considerably impacted by applications of new technology and by changing economic conditions.

The Automotive Technical Committee was appointed by the State Board of Education in 1985 and this group of employers has contributed significantly to the improvement of automotive technician education and training in the Commonwealth. This standing committee will be expanded in the fall, 1991 to include new members representing auto body technology.

The new technical committees in construction, drafting, and graphic communications (printing) will be formed according to the requirements of Public Law 101-392 and will consist of employers, representatives of trade associations, and organized labor, as appropriate. The first objective for these technical committees will be the review and validation of competency lists and other curriculum materials in their fields. The mission statements for each technical committee will be further identified with the assistance of committee members and representatives of the education institutions that offer these programs.

APPENDIX A
FINANCIAL SECTION



DIVISION OF OCCUPATIONAL EDUCATION PERKINS VOCATIONAL EDUCATION AND APPLIED TECHNOLOGY ACT STATE PLAN BUDGET - FY 1992 (INCLUDING CARRYOVER)

	FY 1992 STATE PLAN BUDGET	MATCH
	971,196 60,000	
TOTAL STATE ADMINISTRATION	1,031,196.00	5.0% 971,196.00
STATE LEADERSHIP	1,753,033.00	8.5%
SINGLE PARENT/HOMEMAKER	1,505,546.00	7.32
ELIMINATION OF SEX BIAS	- 659,966.00	3.2%
CORRECTIONS	206,239.00	1.02
SECONDARY PROGRAMS	12,513,874.00	60.7% (80.1% OF PART C)
POSTSECUNDARY PROGRAMS	2,954,068.00	14.32 (19.1% OF PART C)
TITLE II TOTAL	20,623,922.00	100.0% 971,196.00
CBO - PROGRAMS	318,438.00	
C & H - PROGRAMS	893,912.00	(297,971 TO DEPRESSED)
C & H - STATE LEADERSHIP	48,135.00	· · · · · · · · · · · · · · · · · · ·
C & H - STATE ADMIN.	49,581.00	
C & H - TOTAL	991,628.00	
TECH PREP EDUCATION	1,162,306.00	
TITLE III TOTAL	2,472,372.00	0.00
GRAND TOTAL	23,096,294.00	971,196.00

DIVISION OF OCCUPATIONAL EDUCATION PERKINS VOCATIONAL EDUCATION AND APPLIED TECHNOLOGY ACT STATE PLAN BUDGET - FY 1993

	FY 1993 STATE PLAN BUDGET	MATCH
STATE ADMINISTRATION SEX EQUITY COORDINATION TOTAL STATE ADMINISTRATION	800,179 60,000 860,179.00	* 850,000.00
STATE LEADERSHIP	1,462,305.00	
SINGLE PARENT/HOMEMAKER ELIMINATION OF SEX BIAS	1,373,706.00 * 565,644.00 *	
CORRECTIONS	172,036.00	
SECONDARY PROGRAMS POSTSECONDARY PROGRAMS	10,494,396.00 2,395,656.00	
TITLE II TOTAL	17,323,922.00	850,000.00
CBO - PROGRAMS	209,908.00	
C & H - PROGRAMS C & H - STATE LEADERSHIP C & H - STATE ADMIN.	657,533.00 44,832.00 44,832.00	(219,178 TO DEPRESSED)
C & H - TOTAL	747,197.00	
TECH PREP EDUCATION	1,162,306.00	
TITLE III TOTAL	2,119,411.00	0.00
GRAND TOTAL	19,443,333.00	850,000.00

*SAVE HARMLESS REQUIREMENTS

GUIDANCE 1988 EXPENDITURES 1,142,886.00

DIVISION OF OCCUPATIONAL EDUCATION PERKINS VOCATIONAL EDUCATION AND APPLIED TECHNOLOGY ACT STATE PLAN BUDGET - FY 1994

GRAND TOTAL	19,443,333.00	850,000.00
TITLE III TOTAL	2,119,411.00	0.00
TECH PREP EDUCATION	1,162,306.00	
C & H - TOTAL	747,197.00	·
C & H - PROGRAMS C & H - STATE LEADERSHIP C & H - STATE ADMIN.	657,533.00 44,832.00 44,832.00	(219,178 TO DEPRESSED)
CBO - PROGRAMS	209,908.00	/010 130 TO DEDDEOCED)
TITLE II TOTAL	17,323,922.00	. 850,000.00
SECONDARY PROGRAMS POSTSECONDARY PROGRAMS	10,494,396.00 2,395,656.00	
CORRECTIONS .	172,036.00	
SINGLE PARENT/HOMEMAKER ELIMINATION OF SEX BIAS	1,373,706.00 * 565,644.00 *	
STATE LEADERSHIP	1,462,305.00	
STATE ADMINISTRATION SEX EQUITY COORDINATION TOTAL STATE ADMINISTRATION	800,179 60,000 860,179.00	* 850,000.00
	FY 1994 STATE PLAN BUDGET	MATCH

*SAVE HARMLESS REQUIREMENTS

GUIDANCE 1988 EXPENDITURES

1,142,886.00

Section 113 (b) (21)

All Perkins Act grants will be funded through the Department of Education's Bureau of Grants Management. The Bureau of Grants Management disburses and accounts for virtually all grant funds in the Department. They will use fiscal control and funding procedures necessary for proper disbursement of, and accounting for, all federal funds paid to the state and funds paid to eligible recipients by the state under the Perkins Act.

Fiscal Year 1992 Perkins Act Allocations

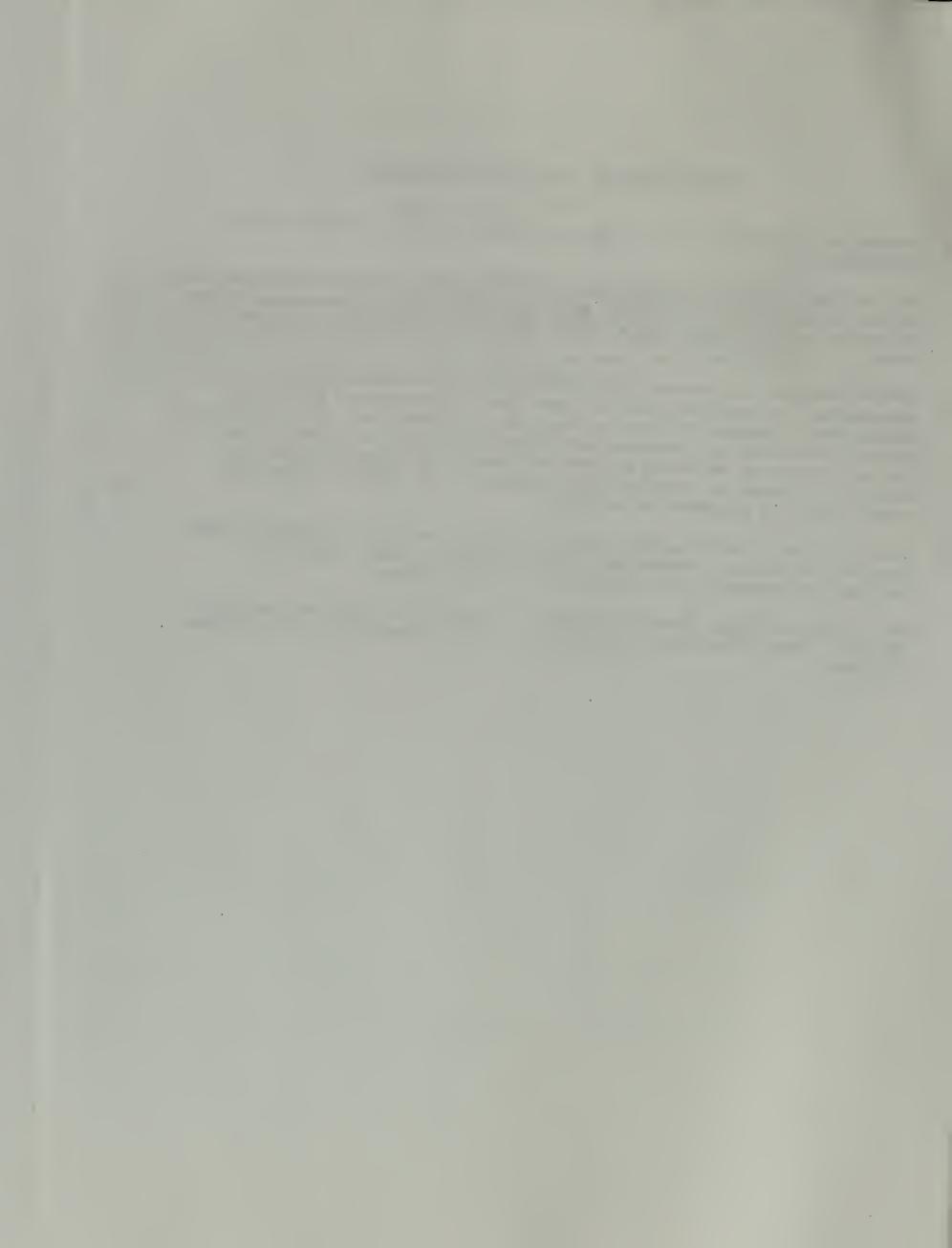
Perkins Act allocations for FY 1992 are listed by grant recipient on the following pages.

One secondary district, Gateway Regional, was granted a waiver of the \$15,000 minimum because they are a rural, mountainous school district located in the Berkshires and could not form a consortium without prohibitive transportation costs.

Several districts in Western Massachusetts belong to three existing educational collaboratives and will pool their Perkins funds to improve occupational programs delivered through the collaboratives. Two districts in Central Massachusetts (Leicester and North Brookfield) will form a consortium for the purpose of receiving Perkins Act funds. One district (Freetown-Lakeville) elected to transfer its allocation to the regional vocational school where its students are enrolled.

Three districts receiving less than \$15,000 have not yet notified the state that they will join a consortium so their funds will most likely be reallocated (Nantucket, West Boylston, Berlin-Boylston).

One eligible college, Franklin Institute, received less than the required \$50,000. Their allocation will later be redistributed to the other sixteen colleges.



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DIVISION OF OCCUPATIONAL EDUCATION PERKINS ACT ALLOCATIONS TITLE II C - SECONDARY FISCAL YEAR 1992

1.54				
LEA	LEA NAME		ALLOOATTON:	
CODE	LEA NAME		ALLOCATION:	
====				
0005	AGAWAM PS		30067	
0003	ATTLEBURU PS		74783	
0019	AYER PS		21818	
0030	BEVERLY PS		22683	
0035	BUSTON PS		1882972	
0044	BROCKTON PS		137445	
0046	BROOKLINE PS		57854	
0049	CAMBRIDGE PS		158106	
0061	CHICOPEE PS		- 99667	
0064	CLINTON PS		22680	
0082	DUXBURY PS		16794	•
0086	EASTHAMPTON PS		23433	HAMPSHIRE EDUC COLLAB
0087	EAST LONGMEADOW !	PS		LOWER PIONEER COLLAB
0093	EVERETT PS		88498	
0095	FALL RIVER PS		103269	
0096	FALMOUTH PS		18427	
0097	FITCHBURG PS		34725	
0100	FRAMINGHAM PS		26601	
0111	GRANBY PS		6930	HAMPSHIRE EDUC COLLAB
0117	HADLEY PS		3429	HAMPSHIRE EDUC COLLAB
0127	HATFIELD PS			HAMPSHIRE EDUC COLLAB
0131	HINGHAM PS		19389	
0137	HOLYOKE PS		273321	·
0142	HUL'L PS		27064	
0149	LAWRENCE PS		73867	
0150	LEE PS			SOUTHERN BERKSHIRE COLLAR
0151	LEICESTER PS			WITH NORTH BROOKFIELD
0152	LENÚX PS			SOUTHERN BERKSHIRE COLLAB
0153	LEOMINSTER PS		59441	
0159	LONGMEADOW PS		13315	LOWER PIONEER COLLAB
0160	LOWELL PS		52769	
0161	LUDLOW PS .		18771	
0163	LYNN PS		274030	
0171	MARSHFIELD PS		32580	
0176	MEDFORD PS		75205	
0197	NANTUCKET PS		6373	
0201	NEW BEDFORD PS		48387	•
0207	NEWTON PS		53912	
0209	NORTH ADAMS PS		30629	
0215	NORTH BROOKFIELD	PS		WITH LEICESTER PS
0229	PEABODY PS		51862	
0236	PITTSFIELD PS		129437	
0243	QUINCY PS		191237	
0248	REVERE PS		22480	
0258	SALEM PS		31648	
0271	SHREWSBURY PS		16315	
0274	SOMERVILLE PS		139748	

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DIVISION OF OCCUPATIONAL EDUCATION PERKINS ACT ALLOCATIONS TITLE II C - SECONDARY FISCAL YEAR 1992

LEA			
CODE	LEA NAME	ALLOCATION	
::::	=======	ALLUCATION	
			•
0278	SOUTH HADLEY PS	18147	
0281	SPRINGFIELD PS	668392	
0293	TAUNTON PS	27049	
0308	WALTHAM PS	74313	
0314	WATERTOWN PS	31203	
0317	WELLESLEY PS	19359	
0322	WEST BOYLSTON PS	4827	
0325	WESTFIELD PS	62502	
0332	WEST SPRINGFIELD PS	40131	
0336	WEYMOUTH PS	84497	
0348	WORCESTER PS	284585	
0406	NORTHAMPTON-SMITH	58959	
0408	WORCESTER VOC COMPLX	311731	
0605	AMHERST-PELHAM REG	43850	HAMPSHIRE EDUC COLLAB
0618	BERKSHIRE HILLS REG	15841	
0620	BERLIN-BOYLSTON REG	2610	
0635	CENTRAL BERKSHIRE RE	16985	
0650	DIGHTON-REHOBOTH REG	17376	
0665	FREETOWN-LAKEVILLE R	17944	TRANS TO OLD COLONY RVIS
0672	GATEWAY REG	14373	RURAL - WAIVER GRANTED
0680	HAMPDEN-WILBRAHAM RE	16185	
0683	HAMPSHIRE REG	10458	HAMPSHIRE EDUC COLLAR
0700	MARTHAS VINEYARD REG	18544	
0751	PLYMOUTH-CARVER REG	100698	
0753	QUABBIN REG	19098	
0760	SILVER LAKE REG	43444	
0765	SOUTHERN BERKSHIRE R	7423	SOUTHERN BERKSHIRE COLLAB
0766	SOUTHWICK-TOLLAND	11557	LOWER PIONEER COLLAB
0767	SPENCER E BROOKFIELD	22881	
0770	TANTASQUA REG	24906	
0775	WACHUSETT REG	25939	
0778	QUABOG REG .	16518	
0801	ASSABET VALLEY VOC T	110480	
0805	BLACKSTONE VALLEY RE	172058	
0806	BLUE HILLS VOC	258895	
0810	BRISTOL-PLYMOUTH VOC	178769	
0815	CAPE COD REGION VOC	180347	
0818	FRANKLIN COUNTY VOC	138878	
0821	GREATER FALL RIVER V	250407	
0823	GREATER LAWRENCE VOC	466845	
0825	GREATER NEW BEDFORD	455158	
0828	GREATER LOWELL VOC-T	544892	
0829	SO MIDDLESEX VOC TEC	147990	
0830	MINUTEMAN VOC TECH	1-97130	
0832	MONTACHUSETT VOC-TEC	243069	
0851	NORTHERN BERKSHIRE V	74386	
0852	NASHOBA VALLEY TECH	86842	
	•		

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DIVISION OF OCCUPATIONAL EDUCATION PERKINS ACT ALLOCATIONS TITLE II C - SECONDARY FISCAL YEAR 1992 ...

LEA CODE .	LEA NAME	ALLOCATION		
0853 0854	NORTHEAST METRÓ VOC NORTH SHORE REG VOC	592133 206669		
0855	OLD COLONY VOC TECH PATHFINDER VOC-TECH		PLUS	FREETOWN-LAKEVILLE
0871	SHAWSHEEN VALLEY VOC SOUTHEASTERN VOC TEC	130838 454193		
	SOUTH SHORE VOC TECH	129185		
0878	S WORCESTER COUNTY V TRI COUNTY VOC TECH	163649 -162513		
0879 0885	UPPER CAPE COD VOC-T	143902 203966		
0910 0913	BRISTOL COUNTY AGR ESSEX AGR TECH	17079 46307		
0915 *** Tota	NORFOLK COUNTY AGR	15634		
		12513812		

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DIVISIÓN ÓF ÓCCUPATIONAL EDUCATION PERKINS ACT ALLOCATIONS TITLE II C - POSTSECONDARY FISCAL YEAR 1992

	LEA		
	CODE	LEA NAME	ALLOCATION
	====		========
	3104	BERKSHIRE CC	106942
	3108	BRISTOL CC	222408
	3113	BUNKER HILL CC	269679
	3116	CAPE COD CC	78269
	3120	GREENFIELD CC	126703
	3124.	HOLYOKE CC	130965
	3128	MASSACHUSETTS BAY CC	100355
	3132	MASSASÚIT CC	284790
	3136	MIDDLESEX CC	137164
	3140	MOUNT WACHUSETT CC	270066
	3144	NORTHERN ESSEX CC	244106
	3149	NORTH SHORE CC	160025
	3154	QUINSIGAMOND CC	166224
	3159	ROXBURY CC	130577
	3164	SPRINGFIELD TECH CC	316563
	3235	QUINCY JR. COLLEGE	174361
į	** Tota	1 ***	
			2919197

APPLICATION REVIEW AND APPEAL GUIDELINES

Application Review Guidelines

All applications from eligible recipients (service providers) for P.L. 101-392 funds must be submitted to the Division of Occupational Education, Massachusetts Department of Education by the deadlines established by the Associate Commissioner for Occupational Education. Each application is reviewed by a minimum of three Department staff members. Additional members may be added from Division and Department, as appropriate. Each member of the review team will use a uniform criteria review sheet prepared by the Division. All applications will be subject to the review of the financial unit of the Division of Occupational Education and the centralized Grants Management Bureau of the Department of Education for budget and other financial Final decisions on the disposition of applications are made by the Associate Commissioner for Occupational Education who submits the applications recommended for approval to the State Board of Education.

No applicant will be informed of any recommendation to approve or disapprove an application prior to action. All applications for P.L. 101-392 funds will be reviewed in concert with the Three Year Local Plan for Vocational-Technical Education that must be submitted to the Division of Occupational Education by May 31, 1991. This Local Plan may be amended during the FY 1992 - 1994 period, subject to review and approval of the Division of Occupational Education.

Appeal Guidelines

If at the conclusion of a programmatic and technical review of entitlement grants or a competitive process to determine which discretionary grants to fund, the decision is made not to fund a particular federal grant or to withhold funding at any time, the approving authority must notify the grant applicant. If the applicant wishes to request a hearing, the applicant must inform the Commissioner of Education within thirty days of such notification. The request for a hearing must include:

- a statement of the issues being appealed alleging a violation of state or federal law, regulations, or guidelines governing the applicable program, including an itemization of the matters of fact and law upon which the applicant bases the appeal;
- copies of all documents, correspondence, data, exhibits, and other information which the applicant intends to introduce at the hearing to support its position;

 a list of witnesses whose testimony will be introduced (excerpt from: "Massachusetts Department of Education Provisions for Appeals of Federal Grant Award Decisions").

The hearing, conducted by a hearing officer designated by the Commissioner, takes place within thirty days and with at least seven calendar days notice to the applicant. No later than ten calendar days after the hearing, the hearing officer issues a written decision informing or rescinding the Department's determination that funds should be withheld. An applicant for federal funds may appeal the final decision to the U.S. Secretary of Education within twenty calendar days after written notification of the hearing officer.

STATEWIDE OCCUPATIONAL DEMAND LIST

The services of the State Occupational Information Coordinating Committee were instrumental in the development of the statewide occupational demand list for Fiscal Years 1992-1994. The occupational research unit of the Massachusetts Department of Employment and Training and the Center for Labor Market Studies at Northeastern University have validated the occupational demand represented on this list. During the three years of this State Plan, these organizations will provide advice to the Division of Occupational Education on an annual update of this statewide list.

Service providers may propose the expansion or initiation of instructional programs that focus on these occupations during Fiscal Years 1992-1994. Service providers that desire to expand or initiate instructional programs that focus on occupations that are not on the statewide demand list may document strong local/area labor market demand for occupations that:

- 1. Require less than a baccalaureate degree for entry;
- 2. Show average annual openings for the next five (5) years that exceed on an annual basis the supply provided by completers of vocational-technical education programs in the area represented by the requesting service provider. Documentation must be presented from at least five employers.
- 3. Show evidence of quality of occupation factors that include:

compensation - wages and benefits
advancement opportunities - career mobility
stability of employment over time

APPEAL PROCEDURES ON ALLOCATION OF BASIC GRANT FUNDS

The appeal procedures on the results of decisions related to the allocation of Basic Grant funds under Public Law 101-392 include the following two levels of appeal:

Level 1: Review

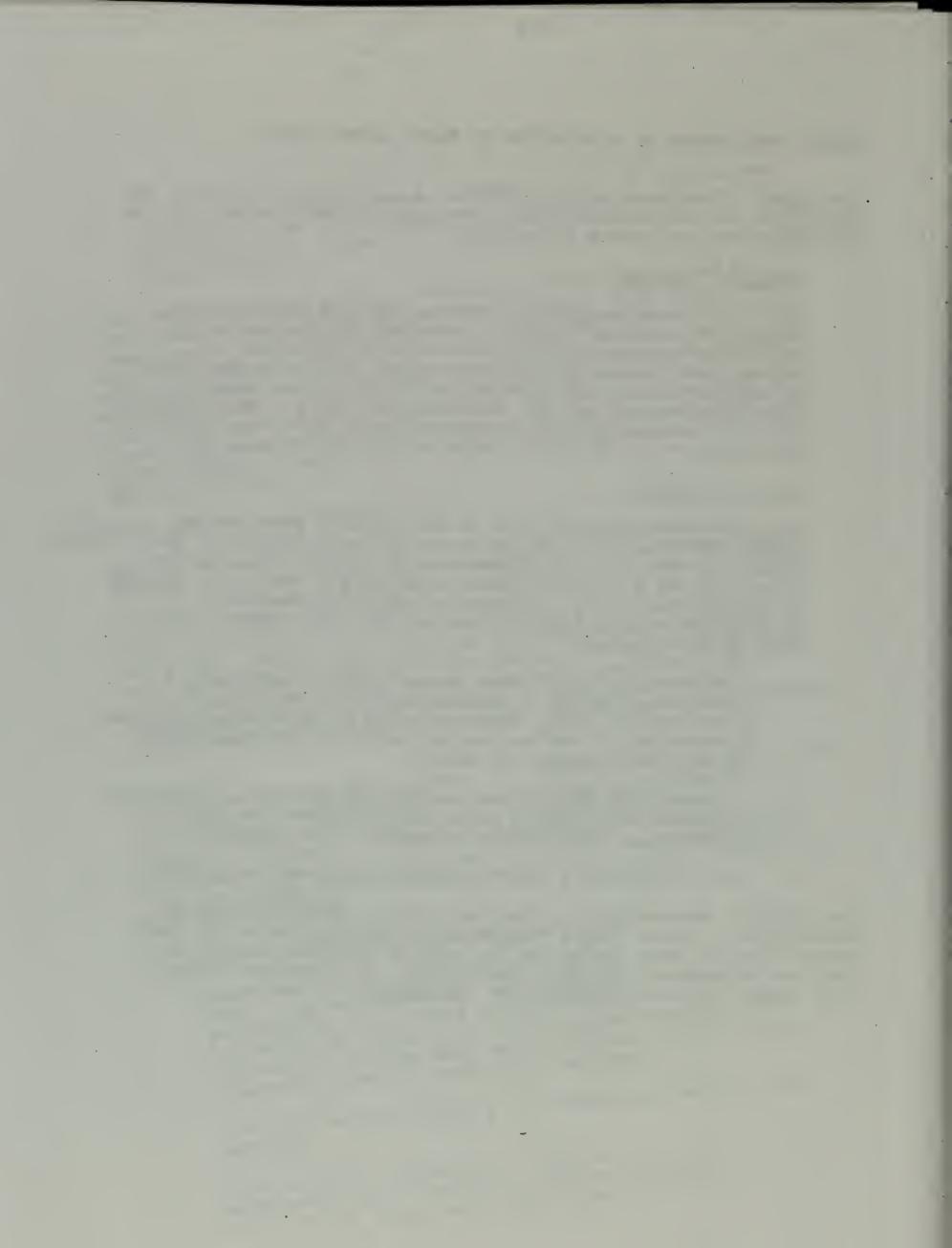
The chief executive officer of any service provider may request a review of data and information related to the allocation process directly from the Division of Occupational Education and may request a meeting by letter to the Associate Commissioner for Occupational Education within 30 days of receipt of allocation data. The findings of this review process will be confirmed by letter to the service provider within 30 days of the review meeting.

Level 2: Appeal

The chief executive officer of any service provider may appeal the allocation of Basic Grant funds following the results of the Level 1 process or at a time within 60 days of receipt of allocation data by writing a letter to request an appeal hearing to the Commissioner of Education, Massachusetts Department of Education. The request for a hearing must include:

- a. a statement of the issues being appealed alleging a violation of state or federal law, regulations, or guidelines govering the applicable program, including an itemization of the matters of fact and law upon which the applicant bases the appeal;
- copies of all documents, correspondence, data, exhibits, and other information which the applicant intends to introduce at the hearing to support its position;
- c. list of witnesses whose testimony will be introduced.

The hearing, conducted by a hearing officer designated by the Commissioner, takes place within thirty days and with at least seven calender days notice to the service provider. No later than ten calendar days after the hearing, the hearing officer will issue a written decision on the appeal.



DATA USED TO DETERMINE ALLOCATIONS FOR P.L. 101-392

Step 1

Section 231(a)

All K-12

- a. Chapter 1 Allotment (AFDC count)
- b. P.L. 94-142 Enrollments
- c. Total Enrollments
 Individual School Report
 October 1, 1989

Step 2

Section 231(c)

"Roll up" K-6 to the towns that serve those students in secondary schools

Step 3

Section 231(d)

For cities/towns that are members of Regional Voc-Techs

a. Compare proportion of enrollment of economically disadvantaged and handicapped in secondary schools in the region to the enrollment of these students in the regional voc-tech school

Economically Disadvantaged

October 1, 1989 Individual School Report Table 6 free and reduced school lunch AFDC

Handicapped

October 1, 1989 School System Summary

b. If proportion of economically disadvantaged and handicapped students enrolled in the regional voc-tech school does not equal or exceed the enrollment of these students in the sending school systems' high schools, then the regional voc-tech school demonstrate that the lack of interest on the part of these students causes the regional voc-tech school to enroll fewer of these students

Step 4

Section 231 (d)

If one of the Step 3 "tests" is net, then the funds are allocated either

a. By enrollment of economically disadvantaged and handicapped in vocational education programs that meet the requirements of Public Law 101-392, Section 235

October, 1990 Occupational Education Report

or

b. On the basis of an agreement between the local educational agency and the regional voc-tech school.

Step 5 Appeal Procedures

Any service provider may appeal to the associate Commissioner for Occupational Education the specific decisions used to determine allocations. The specific procedures will be detailed in the State Plan.



APPENDIX B

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PUBLIC HEARING COMMENTS/STATE BOARD RESPONSE



APPENDIX B

Public Hearing Comments/State Board Responses

Introduction

At their December 18, 1990 meeting, the State Board of Education authorized the Division of Occupational Education to conduct a public comment period on the development of a Three Year State Plan for Vocational-Technical Education for Fiscal Years 1992-1994 as required under Public Law 101-392. The public comment period was December 19, 1990 to January 25, 1991. Public hearings for the purpose of receiving verbal testimony were conducted in Chicopee on January 22, 1991 and in Boston on January 23, 1991. Written testimony was accepted until 5:00 p.m. on January 25, 1991.

A notice of this public comment period was published in newspapers in Boston and Springfield. A notice of this public comment period was mailed to over 800 individuals representing the variety of constituencies affected by vocational-technical education. This mailing included a description of significant features of the new federal legislation, an outline of the statewide needs assessment process, key excerpts from Public Law 101-392, and a list of issues for consideration for the development of the Three Year State Plan.

A total of 70 individuals provided either written or verbal testimony on one or more topics during this public comment period. A total of nine (9) individuals provided verbal testimony at the Chicopee hearing, a total of fourteen (14) individuals presented verbal testimony at the Boston hearing, and a total of forty-seven (47) sent written testimony to the Division of Occupational Education.

Summary of Testimony

A few individuals presented a single recommendation for policy setting, including requests for specific rules or decisions concerning the distribution of funds. A few individuals presented lengthy testimony that included several recommendations for policy relative to the distribution of funds and the administration of programs funded by Public Law 101-392.

A collective effort by the Massachusetts Association of Occupational Education Directors coordinated through one urban school district superintendent, generated a total of nineteen (19) letters of support from school system leaders for the positions taken by the Occupational Education Directors.

- 1. The one percent (1%) set aside for programs for the incarcerated should be assigned to the State Department of Correction. (4 statements; staff of Department of Correction).
- Program standards and outcome measures need to be set and met (1 statement; organized labor officials)

- 3. There should be minimal local modification of statewide standards and any modifications should be subject to state approval. (2 statements; 2 local school district administrators of vocational-technical education)
- 4. Allow local modification of statewide program standards and outcome measures. (5 statements; one community college administrator, four local school district administrators)

Response

- 1. The State Board supports this position and authorizes the Division of Occupational Education to make the necessary arrangements with the Department of Correction.
- The Division of Occupational Education will work with the State Committee of Practitioners to establish the statewide system of standards and outcome measures. Any modification of these statewide standards by local service providers will be subject to review by an advisory committee of employers, labor, parents, students, and representatives of special populations. Final approval of proposed local modifications of statewide standards will rest with the Division of Occupational Education.
- 3. See Response #2

4. See response #2

• 5a. Community based organizations should be allowed to compete for funds to serve single parents/displaced homemakers.

- 5b. Monitoring and technical assistance should be available to programs funded to serve single parents/displaced homemakers.
- 5c. The sex equity coordinator should have oversight over the elements of the planning and administration of these funds. (1 statement with 3 items; member of staff of Bay State Skills Corporation)
- 6. School districts should be allowed to form a consortium and transfer the Perkins funds to an educational cooperative that provides special needs students with services tailored to their individual needs related to transition to employment. (I statement from an education cooperative with 3 letters of support from school districts)

Response

- 5a. Public Law 101-392 restricts service providers for these funds to secondary schools, area vocational-technical schools, and community colleges. The funded programs will continue to be required to coordinate with community based organizations that provide support services to these populations.
- 5b. These services will continue to be coordinated by staff of the Division of Occupational Education.
- 5c. The sex equity coordinator will continue to be involved in the planning and oversight of the administration of these programs.
- 6. The Division of Occupational Education will examine this request in light of draft federal regulations that are expected by mid February, 1991, and will pursue clarification with the United States Department of Education.

All students served under this new Perkins Act must be enrolled in vocational-technical education programs that meet the requirements of the Act.

- 7. Service providers should be required to target local use of federal vocational education funds to the needs identified in the statewide assessment. (1 statement; statewide advocacy center)
- 8. Funds not distributed to vocational-technical schools should be reallocated for competitive proposals submitted by postsecondary institutions. (1 statement; administrator at community college)
- 9. Include data on the unemployed in the formula for allocation of federal funds to post secondary institutions. Dislocated workers are not eligible for Pell Grants. (1 statement; staff member at community college)
- 10. Pell Grant counts should be used for the first year of distribution of funds with flexibility to change to other methods in future years. (2 statements, administrators at community college)
- 11. Continue to fund comprehensive high schools under the Perkins funding for consumer and homemaking and keep target of pregnant and parenting teenagers. (1 statement; President, Massachusetts Home Economics Association)

Response

- 7. Service providers will be asked to address the findings of the statewide needs assessment in their Three Year Local Application. Priority use of funds will be for needs that have not been fully met at the service provider level.
- 8. The new Perkins Act requires that any funds not distributed to school districts because the \$15,000 minimum is not reached and a consortium is not formed must be reallocated to eligible school districts.
- 9. The Division of Occupational Education has asked the Council of Community College Presidents to recommend alternatives to the Pell Grant count as a method to target funds to the economically disadvantaged at post secondary institutions.
- 10. See response to #9

11. This recommendation is accepted with the provision that some vocational-technical schools also be eligible for such funding.

- by public school districts should be eligible to participate in consortia to operate Tech Prep programs if the institute has an articulation agreement with a degree granting post secondary institution. (1 statement; vocational technical school administrator)
 - 13. School districts should be required to account for the expenditure of federal funds on a line item basis. (1 statement; member of a General Advisory Committee)
 - 14. In the case of a city with two public school systems for secondary education, the vocational-technical school system should be designated as the lead service provider in a consortium approach. (1 statement; vocational technical school administrator)

Response

12. This recommendation is accepted if the degree to be granted is included as the outcome of the Tech Prep consortia.

- 13. This is a current requirement in a final report basis and will be continued.
- 14. In the case of any city in Massachusetts with two separate public school systems each with its own school committee/board of trustees, the school system that was established for the purpose of providing vocational-technical education shall be designated an area vocational-technical school for the purposes of the Perkins act (P.L. 101-392). Further, in this case, the area vocational-technical school and the other public school system of the city will enter into a consortium for the purposes of Section 231 (d) of P.L. 101-392 for the distribution of funds to qualified programs in the area vocational-technical school and the other city school or schools. The members of this consortium may appeal to the Associate Commissioner of Occupational Education relative to the distribution of funds under the Act.

- 15. Post secondary federal vocational education funds should be available to school districts that offer postgraduate studies. (1 statement; administrator of educational collaborative)
- 16. School districts should be permitted to assign their allocation to a vocational education collaborative and this structure should be accepted as a consortia under the State Plan. (1 statement, administrator of education collaborative)
- 17. Third party evaluation should be required for service providers that receive more than \$100,000 of federal vocational education funds.

 The process should be standardized and coordinated at the state level. (3 statements; two community college administrators, one vocational-technical school administrator)
- 18. Service providers should be permitted to use "in house" evaluators rather than outside third party evaluators. (2 statements; local school district grant managers)
- 19. Collaboratives should be exempt from third party evaluation requirements. (1 statement; administrator of educational collaborative)
- 20. There should not be a state imposed model for the integration of academic and vocational-technical studies. (1 statement; local school district grants manager)

Response

- 15. This recommendation is accepted; however, it should be noted that the \$50,000 minimum grant level will preclude most, if not all, school districts from this funding.
- 16. This recommendation is accepted provided that all requirements of the Perkins Act and state Plan are met. A particular note is made of the requirement to integrate academic and vocational-technical studies and to present a coherent sequence of courses.
- 17. Third party evaluation will be required in the last year of the State Plan period for every service provider that averages more than \$100,000 per year of federal vocational education funds distributed from the Basic Grant (Title II).
- 18. See response #17
- 19. See response #17
- 20. There will not be a state imposed model. There will be a requirement for a plan for this process to be included in the local application for funds.

- restrictions on the use of Perkins funds. Preparatory services are included in the definitions sections and therefore middle school programs should be permitted under Perkins funding. (3 statements; two local school district grant managers; one local vocational-technical school administrator)
 - 22. Priority for the award of funds under the Tech Prep program should be given to areas of concentrated special populations and/or high unemployment. (1 statement; local school district grant manager)
- -23. The finalized grants
 management manual should be
 available prior to the
 submission of the State Plan
 to the United States
 Department of Education. (1
 statement; local school
 district grant manager)
- 24. Specific appeal procedures should be in the State Plan and distributed in writing. (1 statement; local school district grant manager)
- 25. The State Plan should include the option of granting waivers. (1 statement; local school district grant manager)
- 26. The Massachusetts Department of Education should provide workshops for local school districts interested in national competitive funds. (1 statement; local school district grant manager)

Response

- 21. Funds allocated under the Title II Basic Grant are for programs and services for students enrolled in secondary school programs or programs for post secondary and adult students, all of whom must be enrolled in vocational education programs.

 Preparatory services are permitted for programs to serve single parents, displaced homemakers, and for sex equity programs.
- 22. These two factors will be considered for priority funding under the Tech Prep program.
- 23. Any grants management manual produced will be brief and state rules will be subject to the review of the State Committee of Practitioners.
- 24. Specific appeal procedures on the distribution of funds will be included in the State Plan.
- 25. Waivers of rules will only be permitted to more effectively meet the intent of policy.
- 26. It is unclear what programs included in the new Perkins act will be funded by the United States Department of Education. Information on these competitive bid programs will be disseminated.

27. Recognize designation of regional vocational-technical school districts as primary providers of vocationaltechnical education for their member communities under State Distribute allocations to regional vocational technical schools as a cosortium of the population in the cities and towns. (9 statements; local and regional vo-tech school administrators, President of Massachusetts Association of Vocational Administrators)

Response

27. The State Plan recognizes that regional vocational-technical school districts in Massachusetts are the primary, though not always the exclusive, provider of vocational-technical education for their member cities and towns. General Laws Chapter 71, Section 14B (C) states that:

"No member town of such district, and no other type of regional school district of which such a town is a member shall, without the approval of the Commissioner of Education, offer the same kinds of education as offered by said vocational district."

Space is available in most of the regional vocationaltechnical school districts for additional high school age or adult students from the member cities and towns. Further, many students indicated in a 1989 survey that they did not receive sufficient information or counseling to make a school or program choice concerning vocational-technical The new Perkins education. Act establishes new quality indicators for programs to be eligible for funding:

- (a) programs must be of size, scope and quality as to be effective;
- (b) programs must integrate academic and vocational education through a coherent sequence of courses;
- (c) programs must provide equitable participation for special populations; and

Response

(d) programs must meet standards and outcome measures that will be established and implemented by the state by September, 1992.

These new requirements and the agreements formed by cities and towns through the establishment of regional vocational-technical school districts with school committees that are constituted of representatives of the member cities and towns lead to a recognition of a need to establish and support a coherent system of vocational-technical education on a regional basis. Those cities and towns that are not members of a regional vocational-technical school district are not affected by this specific recognition of the need for a consortium.

Therefore, for the purposes of Section 231 (d) of Public Law 101-392, regional vocationaltechnical school districts and the local education agencies of the member cities and towns of that regional vocationaltechnical school district will form a consortium for the distribution of funds to qualified programs in the regional vocational-technical school district and in the local school districts. members of this consortium may appeal to the Associate Commissioner of Occupational Education relative to the distribution of funds under this Act.

- 28. Distribute Perkins Act funds
 to comprehensive schools that
 offer occupational education
 programs without regard to the
 town or city membership in
 regional vocational-technical
 school districts. (Position
 paper presented by
 Massachusetts Association of
 Occupational Education
 Directors; 19 letters of
 support from local school
 district administrators.)
- 29. Provisions should be made for the special cases of Worcester and Northampton concerning the distribution of funds. (2 statements; vo-tech school administrators)

30. The split of funds for secondary/postsecondary programs should be based on student enrollment on a full time equivalency. (1 statement; regional vo-tech school administrator)

Response

28. See Response #27

- 29. In the case of any city in Massachusetts with two separate public school systems each with its own school committee/board of trustees, the school system that was established for the purpose of providing vocational-technical education shall be designated an area vocational-technical school for the purposes of the Perkins act (P.L. 101-392). Further, in this case, the area vocational-technical school and the other public school system of the city will enter into a consortium for the purposes of Section 231 (d) of P.L. 101-392 for the distribution of funds to qualified programs in the area vocational-technical school and the other city school or schools. The members of this consortium may appeal to the Associate Commissioner of Occupational Education relative to the distribution of funds under the Act.
- 30. This recommendation is consistent with the method planned for the split of funds.

- 31. Single parent/displaced homemaker grants should be competitive and school districts should be eligible to compete. (3 statements; 2 school district administrators, 1 administrator at Bay State Skills Corporation)
- 32. The allocation of funds to a service provider should indicate the data used to determine the amount of funds. (1 statement; 19 letters of support)
- 33. The state, not the service providers, will be responsible for maintenance of effort. (1 statement; 19 letters of support)
- 34. Secondary school districts should be permitted to meet the academic requirements of the law by providing vocational students and/or those planning to enter this course of study with strong development and use of problem solving skills and basic and advanced academic skills in the areas of mathematics, science, reading, writing, social studies, and remediation in these areas. (1 statement; 19 letters of support)

Response

31. This recommendation is accepted.

- 32. This recommendation is accepted and the specific data will be sent in correspondence to the service provider.
- 33. The state must maintain fiscal effort for vocational-technical education, not individual service providers.
- 34. These academic subjects and features of a student's learning experience are essential elements to be included. The law requires an integration of academic and vocational technical studies, not just a simple offering of the two categories of learning. The law also appears to restrict the use of Title II Basic Grant funds to programs that serve high school, post secondary or adult students.

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- 35. In the planning and implementation of projects, comprehensive high schools and vocational-technical schools may determine needs independently, and not require approval from one another.

 Local school districts should only be responsible for programs for students attending their school districts. (1 statement; 19 letters of support)
- 36. Priority should be given to those projects which provide for articulation agreements in applied Technology education between secondary and postsecondary institutions.

 (1 statement; 19 letters of support)
- 37. Priority for funding should be given to school districts that are part of a coalition of local agencies to meet the needs of single parents and single pregnant women. (1 statement; 19 letters of support)
- 38. The regulations should state that local school districts will be represented equitably and proportionately on the statewide system of core standards and measures of performance. (1 statement; 19 letters of support)
- 39. For the purposes of the statewide needs assessment, any student who attends at least one vocational skill training period per day and one academic/related or support/remedial period should be counted as a vocational student. (1 statement; 19 letters of support)

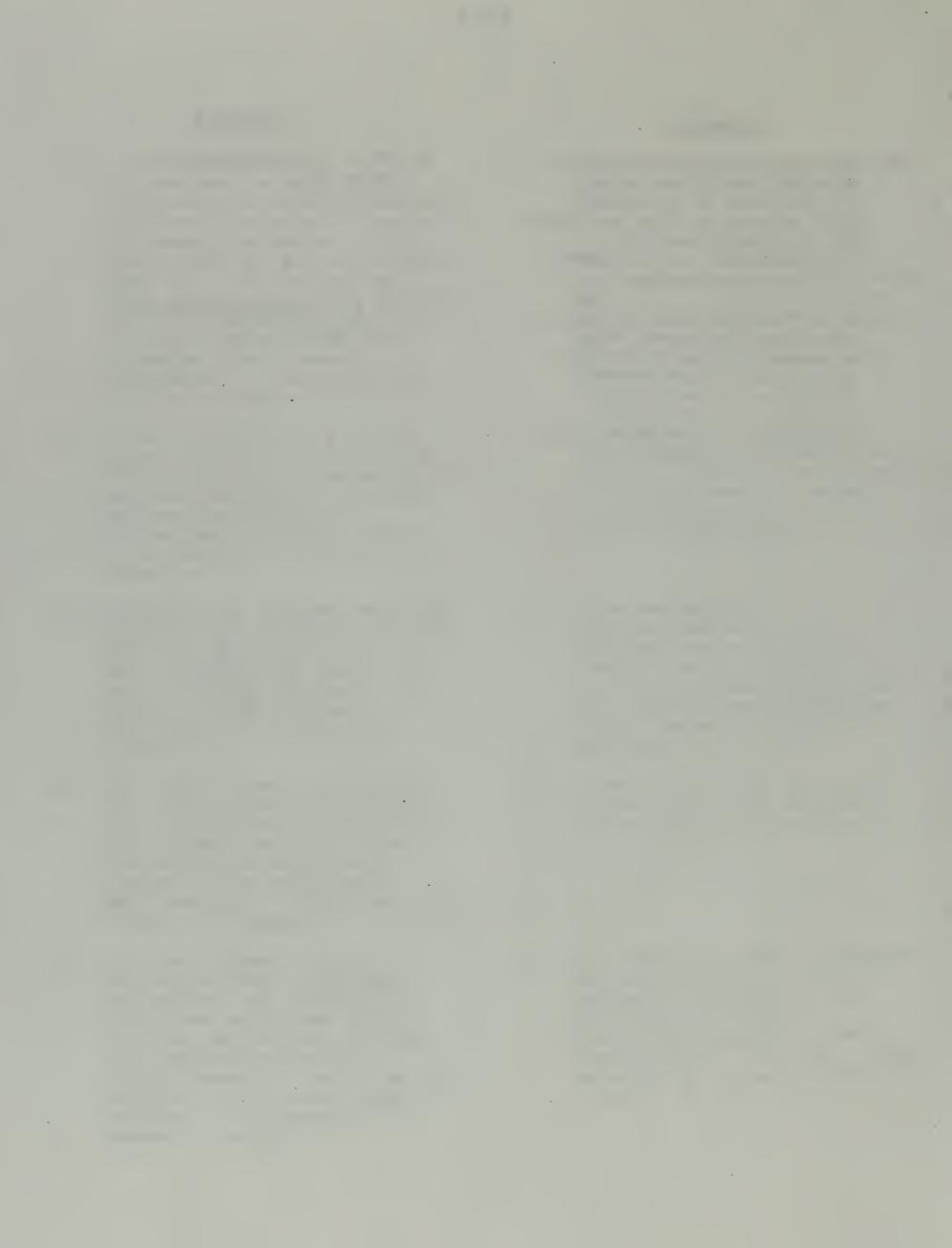
Response

- 35. Comprehensive high schools in cities and towns that are members of a regional vocational-technical school district will need to plan programs in coordination with the regional school in view of state law, limited resources, declining enrollments, and other factors clarified through the statewide needs assessment.
- 36. This activity will be a permitted use of funds under Title II Basic Grant if all other requirements are met, particularly the services to special populations.
- 37. This recommendation is accepted and will be incorporated in both the competitive funding of consumer and homemaker grants and competitive funding for single parents/displaced homemakers.
- 38. These regulations will be issued by the United states Department of Education.
- 39. The statewide needs assessment has taken into account all students in programs that qualified for federal vocational education funds during Fiscal Year 1991. Data on students in non-Chapter 74 programs is limited.

- 40. The state should cite the specific section of the Perkins Act or the state policy that will be included in Local Application requirements. (1 statement; 19 letters of support)
- 41. A service provider should be permitted to appeal the mandates of the statewide standards and measures directly to the state's Director of Vocational Education (1 statement; 19 letters of support)

Response

- 40. This recommendation is accepted.
- 41. This recommendation is accepted.



APPENDIX C

LABOR MARKET ANALYSIS



Employment Developments and Massachusetts Vocational Technical Education Programs

Prepared by:

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Introduction

The decade of the 1980s was one in which, by most measures, labor market conditions improved considerably in Massachusetts. Substantial job growth and slow labor force growth, resulted in sharp reductions in overall unemployment rates, especially during the second half of the decade. Unemployment rates fell to less than 4% by mid-decade Labor force attachment for most race/ethnic and age groups in the state was reaching all time highs while unemployment rates for most groups fell. after 1984 Teenagers, in particular, faced very favorable labor market conditions in Massachusetts during most of the 1980s. Teen labor force attachment was much higher than the national average, while teen unemployment rates in many years during the decade were less than half the average of all teens in the nation.

During the economic expansion of the 1980s decade, the job content of the state economy changed considerably. Between 1980 and 1989 total nonagricultural employment in the state increased by 463,000 jobs or about 17.5 percent. However, this rate of job growth was not the same across all major industry sectors. While a number of industry sectors grew at very rapid rates, others grew more slowly, or actually declined. Findings in Table 1 examine recent trends in employment by major industry sector between 1980 and 1989. These data reveal sharp employment increases in the private services and construction industries. Nearly two-thirds (62.8%) of all net new jobs created in Massachusetts were located in the private service industry. Employment in the service industry grew by 45.9% over the period, a rate of growth in excess of 5% per year. Private services in Massachusetts are heavily concentrated in business, education, health and legal services and employ large proportions of professional, technical, and managerial workers.

Employment in the construction sector grew at an extraordinary pace during the 1980s. Total construction payroll employment increased by 50,600 jobs or 65.6%. An annual rate of change of more than 7% per year. Construction industries employ high shares of blue collar workers and were important sources of jobs for a number of Chapter 74 voc-tech programs during the 1980s.

While most sectors of the state economy grew during the 1980s, the state's manufacturing sector suffered substantial job loss. As the state moved toward full employment manufacturing sector payroll employment declined by 110,000 jobs. A

substantial proportion of this manufacturing job loss was in the state's high technology sector. Thus, the job content of the state eocnomy change considerably over the decade. Growth was concentrated in white collar service industries, while employment opportunities in the blue collar manufacturing sector diminished.

Recent Employment Developments

Since the beginning of 1989 the state's economy has been undergoing a substantial employment downturn. As the findings in Table 2 reveal, payroll employment between November 1989 and November 1990 declined by about 125,000 jobs.

As the findings reveal, every major industrial sector in the state experienced job loss. Especially, hard hit was the state's construction sector, where employment declined by 26,400 jobs in just twelve months, a relative decline of 20.9% in one year. The blue collar worker dominated manufacturing sector continued it's longer term downward trend losing an additional 34,800 jobs over the year. The wholesale and retail trade sector also experienced large absolute and relative employment declines. The white collar dominated services and finance, insurance, and real estate sectors were comparatively insulated from these economic reversals. In fact, overall service employment has declined by only 4,800 jobs over the year, a rate of decline of about one-half of one percent. Further, the non-hospital health service industry including nursing homes and offices of physicians and dentists actually registered strong employment gains. Sadly, the non-hospital health industry is among the last remaining growth industries in the state.

The data in Table 2 reveal quite clearly the dramatic reversal in the economic fortune of the state. The ability of job seekers to successfully become employed has diminished proportionately. Those programs with strong industry linkages and effective job placement and follow-up efforts will have the advantage in this type of labor market.

Labor Market Conditions by Program Area

Tables 3 through 16 provide historical and projected employment data for those industries that are major employers of graduates from each program area. The 14 programs included in this set of tables represent 75 percent of all Chapter 74 job placements. Each table provides information on key industry employers for students completing an individual program. The most recent employment data are provided for

each industry, and illustrate recent employment developments among key industries who employ graduates from the relevant program area.

Information on projected industry employment from both the state and national industry employment projections program are also provided. Taken together these three data bases can lend insight into recent and anticipated labor market conditions for each of the 14 program areas included in this report.

Table 1:

Trends in Non-Agricultural Wage and Salary
Employment in Massachusetts by
Industrial Sector, 1980-1989

Industry Sector	<u>1980</u>	<u>1989</u>	Absolute <u>Change</u>	Relative <u>Change</u>
Total	2652.2	3115.4	463.2	17.5
Construction ·	77.1	127.7	50.6	65.6
Manufacturing	673.3	563.3	-110.0	-16.3
Transportation, Communication & Utilities	121.4	128.0	6.6	5.4
Trade	574.6	746.1	171.5	29.9
Finance, Insurance & Real Estate	159.0	217.9	58.9	37.0
Private Services	634.0	924.7	290.7	45.9
Government	410.3	406.3	-4.0	-1.0

Table 2:

Recent Trends in Industry Employment in Massachusetts

Industry Sector	November 1989	November 1990	Absolute Change	Relative Change
Total	3137.7	3012.6	-125.1	-3.9
Construction	126.2	99.8	-26.4	-20.9
Manufacturing	554.3	519.5	-34.8	-6.3
Transportation, Communication & Utilities	134.5	128.1	-6.4	-4.8
Wholesale Trade	756.6	718.6	- 38.0	-5.0
Retail Trade	573.1	538.2	- 34.9	-6.1
Finance, Insurance & Real Estate	216.8	215.3	-1.5	-0.7
Services	937.0	932.2	-4.8	-0.5

Massachusetts, 1990

Civilian Labor Force Participation Rate

Total	68.5
White	68.9
Black	63.9
Hispanic	62.0

Employment to Populaton Ratio

Total	64.4
White	64.8
Black	57.2
Hispanic	56.5

Unemployment

Rate

Total	6.0
White	5.9
Black	10.2
Hispanic	8.3

Massachusetts, 1990, Individuals 16-19 Years Old

Civilian Labor Force Participation Rate

Total	57.6
White	59.5
Black	32.4
Hispanic	46.7

Employment to Populaton Ratio

Total	48.7
White	50.2
Black	27.3
Hispanic	37.5

Unemployment Rate

Total	15.5
White	15.3
Black	27.1
Hispanic	18.9

Number of Observations for 20-29 Year Olds in the U.S. and New England, by Selected Characteristics, March 1980 and March 1990

	บ.ร.	
	1980	1990
All	31,159	23,804
20-24	15,948	10,985
25-29	15,211	12;819
Male	14,804	11,409
Female	16,355	12,395
••• • • • • • • • • • • • • • • • • •		
White, non-Hispanic	24,267	16,930
Black, non-Hispanic	2,882	2,375
Hispanic	3,016	3,508
Other, non-Hispanic	994	991
Student	2,982	2,566
H.S. Dropout	4,714	3,625
H.S. Graduate	12,969	9,243
Some College	6,151	4,646
College Graduate	4,343	3,724
	New England	
	1980	1990
All	2,417	2,016
20-24	1 275	947
25-29	1,275 1,142	1,069
23-23	1,172	1,009
Male	1,164	977
Female .	1,253	1,039
White, non-Hispanic	2,259	1,823
Black, non-Hispanic	46	62
Hispanic	78	80
Other, non-Hispanic	34	51
Student	249	209
H.S. Dropout	319	202
H.S. Graduate	1,005	778
Some College	428	400
College Graduate	416	427
	4 4	124
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Number of 20-29 Year Olds in the U.S. and New England, by Selected Characteristics, March 1980 and March 1990 (Numbers in Thousands)

	•	U.S	•	
			* of	% of
			Total	Total
	1980	1990	1980	1990
All .	379,213	387,981	100.0%	100.0%
20-24	197,552	178,184	52.1%	45.9%
25-29	181,661	`209,796	47.9%	54.71
Male	183,875	189,729	48.5%	48.9%
Female	195,338	198,252	51.5%	51.1%
White, non-Hispanic	302;371	282,930	79.7%	72.98
Black, non-Hispanic	43,999	50,536	11.6%	13.0%
Hispanic	24,531	40,937	6.5%	10.6%
Other, non-Hispanic	8,312	13,578	2.2%	3.5%
Student	38,551	42,517	10.2%	11.0%
H.S. Dropout	56,690	56,328	14.9%	14.5%
H.S. Graduate	156,976	150,755	41.4%	38.9%
Some College	73,534	76,149	19.4%	19.6%
*College Graduate	53,462	62,232	14.1%	16.0%
•		New Eng		
•			* of	% of
			Total	Total
	1980	1990	1980	1990
All	20,530	21,253	100.0%	100.0%
20-24	10,787	9,880	52.5%	46.5%
25-29	9,743	11,373	47.5%	53.5%
Male	10,195	10,851	49.7%	51.1%
Female	10,335	10,402	50.3%	48.98
White, non-Hispanic	19,072	19,071	92.9%	89.7%
Black, non-Hispanic	568	998	2.8%	4.78
Hispanic	614	644	3.0%	3.0%
Other, non-Hispanic	276	541	1.3%	2.5%
Student	2,405	2,243	11.7%	10.6%
H.S. Dropout	2,579	1,804	12.6%	8.5%
H.S. Graduate	8,095	8,232	39.4%	38.7%
Some College	3,565	4,357	17.4%	20.5%
College Graduate	3,886	4,617	18.9%	21.7%
	2,300	.,	2000	

Table 1: Labor Force Participation Rates of 20-29 Year Olds in the U.S. and New England, by Selected Characteristics, March 1980 and March 1990

	1980	1990	Absolute Change	Percent Change
All	77.8%	79.3%	1.4	1.84
20-24	75.4%	75.2%	-0.2	-0.3 %
25-29	80.5%	82.7%	2.2	
Male	89.4%	86.8%	~2.6	-2.9%
Female		72.1%	5.1	7.6%
White, non-Hispanic	79.4%	81.4%	2.0	2.5%
Black, non-Hispanic	72.0%	72.9%	0.9	1.3%
Hispanic	72.7%	76.0%	3.3	4.5%
Other, non-Hispanic	68.1%	68.7%	0.6	0.9%
Student H.S. Dropout H.S. Graduate Some College College Graduate	36.8%	39.8%	3.0	8.2%
	68.7%	67.9%	-0.9	-1.3%
	81.6%	83.2%	1.6	2.0%
	87.7%	89.2%	1.4	1.6%
	92.6%	94.9%	2.3	2.5%

	1980	1990	Absolute Change	Percent Change
All	79.8%	82.5%	2.7	3.4%
20-24 25-29	76.1% 83.9%	79.5% 85.1%	3.4	4.5%
Male Female	89.4%	86.7% 78.1%	-2.7 7.8	-3.0% 11.0%
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic	81.0% 75.7% 55.5% 58.7%	83.9% 75.6% 63.1% 68.7%	2.9 -0.1 7.6 10.0	3.6% -0.2% 13.7% 17.0%
Student H.S. Dropout H.S. Graduate Some College College Graduate	37.1% 77.3% 82.2% 86.5% 96.6%	38.7% 68.3% 87.1% 90.4% 93.7%	1.6 -9.1 4.9 3.8 -2.9	4.4% -11.7% 5.9% 4.5% -3.0%

Table 2: Employment/Population Ratios of 20-29 Year Olds in the U.S. and New England, by Selected Characteristics, March 1980 and March 1990

1980	1990	Absolute Change	Percent Change
70.7%	74.3%	3.5	5.0%
67.3%	69.6%	2.2	3.3% 5.1%
80.5% 61.6%	81.2% 67.6%	0.7	0.9%
73.2% 58.6% 65.5% 62.6%	77.5% 62.2% 69.8% 64.9%	4.3 3.5 4.4 2.3	5.9% 6.1% 6.7% 3.7%
31.7% 56.2% 73.6% 82.7% 89.5%	35.4% 58.0% 77.7% 85.8% 92.9%	3.8 1.8 4.1 3.1 3.3	12.0% 3.2% 5.6% 3.8% 3.7%
	70.7% 67.3% 74.5% 80.5% 61.6% 73.2% 58.6% 65.5% 62.6% 31.7% 56.2% 73.6% 82.7%	70.7% 74.3% 67.3% 69.6% 74.5% 78.2% 80.5% 81.2% 61.6% 67.6% 73.2% 77.5% 58.6% 62.2% 65.5% 69.8% 62.6% 64.9% 31.7% 35.4% 56.2% 58.0% 73.6% 77.7% 82.7% 85.8%	1980 1990 Change 70.7% 74.3% 3.5 67.3% 69.6% 2.2 74.5% 78.2% 3.8 80.5% 81.2% 0.7 61.6% 67.6% 6.0 73.2% 77.5% 4.3 58.6% 62.2% 3.5 65.5% 69.8% 4.4 62.6% 64.9% 2.3 31.7% 35.4% 3.8 56.2% 58.0% 1.8 73.6% 77.7% 4.1 82.7% 85.8% 3.1

	1980	1990	Absolute Change	Percent Change
All	74.9%	77.1%	2.2	3.0%
20-24 25-29	70.2% 80.1%	73.8 \$ 79.9 \$	3.6 -0.1	5.1%
Male Female	82.2% 67.6%	79.3% 74.7%	-2.9 7.1	-3.5% 10.5%
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic	76.1% 68.7% 49.9% 58.7%	78.5% 70.2% 57.1% 65.5%	2.3 1.5 7.1 6.8	3.1% 2.2% 14.3% 11.5%
Student H.S. Dropout H.S. Graduate Some College College Graduate	34.1% 67.4% 76.1% 83.8% 94.4%	34.4% 61.2% 80.3% 85.0% 90.9%	0.3 -6.2 4.2 1.1 -3.5	0.9% -9.2% 5.5% 1.4% -3.7%

Table 3: Unemployment Rates of 20-29 Year Olds in the U.S. and New England, by Selected Characteristics, March 1980 and March 1990

1980	1990	Absolute Change	Percent Change
9.1%	6.3%	-2.8	-30.6\$
10.7%	7.6%	-3.2 -2.1	-29.6 %
10.0%	6.4%	-3.6 -1.8	-35.7% -22.5%
7.8% 18.6% 10.0% 8.0%	4.8% 14.7% 8.1% 5.4%	-3.1 -3.9 -1.8 -2.6	-39.1% -20.7% -18.5% -32.5%
13.98 18.28 9.88 5.88 3.38	10.9% 14.5% 6.6% 3.8% 2.1%	-3.0 -3.7 -3.2 -2.0 -1.2	-21.5% -20.3% -32.6% -34.7% -35.3%
	9.1% 10.7% 7.5% 10.0% 8.1% 7.8% 18.6% 10.0% 8.0% 13.9% 18.2% 9.8% 5.8%	9.1% 6.3% 10.7% 7.6% 7.5% 5.4% 10.0% 6.4% 8.1% 6.2% 7.8% 4.8% 18.6% 14.7% 10.0% 8.1% 8.0% 5.4% 13.9% 10.9% 18.2% 14.5% 9.8% 6.6% 5.8% 3.8%	1980 1990 Change 9.1% 6.3% -2.8 10.7% 7.6% -3.2 7.5% 5.4% -2.1 10.0% 6.4% -3.6 8.1% 6.2% -1.8 7.8% 4.8% -3.1 18.6% 14.7% -3.9 10.0% 8.1% -1.8 8.0% 5.4% -2.6 13.9% 10.9% -3.0 18.2% 14.5% -3.7 9.8% 6.6% -3.2 5.8% 3.8% -2.0

	1980	1990	Absolute Change	Percent Change
All	6.28	6.6%	0.4	6.3%.
20-24 25 - 29	7.7% 4.6%	7.2% 6.0%	-0.5 1.5	-7.0% 31.6%
Male Female	8.0%	8.5% 4.3%	0.5	6.4%
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic	6.1% 9.2% 10.0% 0.0%	6.5% 7.1% 9.6% 4.7%	0.4 -2.1 -0.5 4.7	7.3% -23.2% -4.8% ERR
Student H.S. Dropout H.S. Graduate Some College College Graduate	8.2% 12.9% 7.5% 3.1% 2.3%	11.3% 10.4% 7.8% 5.9% 3.0%	3.1 -2.5 0.3 2.9 0.7	37.1% -19.4% 4.3% 92.9% 31.3%

Table 4: Percent of 20-29 Year Olds in the U.S. and New England Who Were Employed at Least One Week During the Year, by Selected Characteristics, 1979 and 1989

	1979	1989	Absolute Change	Percent Change
All	85.14	86.0%	0.9	. 1.1%
20-24 25-29	84.9 % 85.3 %	84.8% 87.0%		-0.18
Male Female	93.5% 77.2%	92.4% 79.9%		-1.2% 3.5%
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic	87:6% 74.2% 78.0% 74.3%	89.4% 75.5% 78.9% 75.5%	1.4	2.1% 1.8% 1.1% 1.6%
Student H.S. Dropout H.S. Graduate Some College College Graduate	74.1% 72.0% 86.3% 91.5% 94.9%	72.5% 71.3% 87.8% 92.7% 96.1%		-2.1% -1.0% 1.8% 1.3% 1.3%

*				
			Absolute	Percent
	1979	1989	Change	Change
All	90.6%	90.9%	0.2	0.3%.
20-24	90.98	90.5%	-0.4	-0.5%
25-29	90.3%	91.28	0.9	1.0%
Male	95.3*	95.3%	0.0	0.0%
Female	86.0%	86.2%	0.2	0.3%
White, non-Hispanic	91.6%	92.3%	0.6	0.7%
Black, non-Hispanic	86.8	81.9%	-4.9	-5.7%
Hispanic	72.6%	75.6%	3.0	4.18
Other, non-Hispanic	69.5%	76.1%	6.7	9.6%
Student ,	80.4%	80.2%	-0.2	-0.3%
H.S. Dropout	82.0%	73.3%	-8.7	-10.6%
H.S. Graduate	90.6%	92.1%	1.5	1.6%
Some College	95.88	94.2%	-1.7	-1.7%
College Graduate	97.8%	97.7%	-0.2	-0.2%

Table 5: Mean Real Annual Earnings of 20-29 Year Olds in the U.S. and New England, by Selected Characteristics, 1979 and 1989 (in 1989 Dollars)

	1979	1989	Absolute Change	Percent Change
All	\$12,970	\$12,667	-303	~2.3\$
20-24 25-29	\$10,196	\$9,036	-1160	-11.4%
	\$15,986	\$15,751	-236	-1.5%
Male	\$17,522	\$15,653	-1869	-10.7%
Female	\$8,685	[\$9,809	1124	
White, non-Hispanic	\$13,784	\$13,756	-28	-0.2%
Black, non-Hispanic	\$9,391	\$9,231	-161	-1.7%
Hispanic	\$10,298	\$9,787	-511	-5.0%
Other, non-Hispanic	\$10,198	\$11,450	1252	12.3%
Student H.S. Dropout H.S. Graduate Some College College Graduate	\$4,191	\$4,053	~138	-3.3%
	\$8,623	\$7,364	-1259	-14.6%
	\$13,425	\$12,356	-1069	-8.0%
	\$15,236	\$14,428	-808	-5.3%
	\$19,456	\$21,950	2494	12.8%

	1979	1989	Absolute Change	Percent Change
A11	\$13,071	\$15,767	2697	20.6%
20-24	\$10,178	\$11,887	1709	16.8%
25-29	\$16,273	\$19,138	2865	
Male	\$16,551	\$18,825	2274	13.7%
Female	\$9,637	\$12,577	2940	30.5%
White, non-Hispanic	\$13,332	\$16,199	2868	21.5%
Black, non-Hispanic	\$9,974	\$11,653	1679	16.8%
Hispanic	\$8,186	\$10,574	2388	29.2%
Other, non-Hispanic	\$12,267	\$14,293	2026	16.5%
Student H.S. Dropout H.S. Graduate Some College College Graduate	\$3,803	\$5,258	1455	38.3%
	\$8,929	\$10,061	1132	12.7%
	\$13,307	\$15,415	2108	15.8%
	\$14,353	\$16,349	1995	13.9%
	\$19,888	\$23,183	3295	16.6%

Table 6: Mean Real Annual Earnings of 20-29 Year Olds in the U.S. and New England Who Were Employed at Least One Week During the Year, by Selected Characteristics, 1979 and 1989 (in 1989 Dollars)

			•
1979	1989	Absolute Change	Percent
\$15,219	\$14,726	-493	-3.2%
\$11,980	\$10,654	-1326	-11.18
\$18,724	\$18,096	-629	
\$18,697	\$16,937	-1760	-9.4%
\$11,251	\$12,278	1027	9.1%
\$15,721	\$15,381	-341	-2.2%
\$12,613	\$12,223	-390	-3.1%
\$13,190	\$12,413	-777	-5.9%
\$13,724	\$15,164	1440	10.5%
\$5,631	\$5,589	-42	-0.7% -13.5% -9.5% -6.5% 11.4%
\$11,938	\$10,331	-1606	
\$15,543	\$14,073	-1471	
\$16,641	\$15,566	-1075	
\$20,505	\$22,841	2335	
	\$15,219 \$11,980 \$18,724 \$18,697 \$11,251 \$15,721 \$12,613 \$13,190 \$13,724 \$5,631 \$11,938 \$15,543 \$16,641	\$15,219 \$14,726 \$11,980 \$10,654 \$18,724 \$18,096 \$18,697 \$16,937 \$11,251 \$12,278 \$15,721 \$15,381 \$12,613 \$12,223 \$13,190 \$12,413 \$13,724 \$15,164 \$5,631 \$5,589 \$11,938 \$10,331 \$15,543 \$14,073 \$16,641 \$15,566	\$15,219 \$14,726 -493 \$11,980 \$10,654 -1326 \$18,724 \$18,096 -629 \$18,697 \$16,937 -1760 \$11,251 \$12,278 1027 \$15,721 \$15,381 -341 \$12,613 \$12,223 -390 \$13,190 \$12,413 -777 \$13,724 \$15,164 1440 \$5,631 \$5,589 -42 \$11,938 \$10,331 -1606 \$15,543 \$14,073 -1471 \$16,641 \$15,566 -1075

1979	1989	Absolute Change	Percent Change
\$14,404	\$17,351	2948	20.5%
\$11,164	\$13,136	1973	17.7%
\$18,017	\$20,984	2967	16.5%
\$17,325	\$19,747	2422	14.0%
\$11,209	\$14,588	3379	
\$14,530	\$17,556	3026	20.8%
\$11,488	\$14,228	2740	23.9%
\$11,281	\$13,993	2712	24.0%
\$17,663	\$18,780	1117	6.3%
\$4,730	\$6,560	1829	38.7%
\$10,882	\$13,721	2839	26.1%
\$14,630	\$16,739	2109	14.4%
\$14,979	\$17,365	2386	15.9%
\$20,328	\$23,735	3407	16.8%
	\$14,404 \$11,164 \$18,017 \$17,325 \$11,209 \$14,530 \$11,488 \$11,281 \$17,663 \$4,730 \$10,882 \$14,630 \$14,979	\$14,404 \$17,351 \$11,164 \$13,136 \$18,017 \$20,984 \$17,325 \$19,747 \$11,209 \$14,588 \$14,530 \$17,556 \$11,488 \$14,228 \$11,281 \$13,993 \$17,663 \$18,780 \$4,730 \$6,560 \$10,882 \$13,721 \$14,630 \$16,739 \$14,979 \$17,365	1979 1989 Change \$14,404 \$17,351 2948 \$11,164 \$13,136 1973 \$18,017 \$20,984 2967 \$17,325 \$19,747 2422 \$11,209 \$14,588 3379 \$14,530 \$17,556 3026 \$11,488 \$14,228 2740 \$11,281 \$13,993 2712 \$17,663 \$18,780 1117 \$4,730 \$6,560 1829 \$10,882 \$13,721 2839 \$14,630 \$16,739 2109 \$14,979 \$17,365 2386

<u>C17</u>

Number of Observations for 16-19 Year Olds in the U.S. and New England, by Selected Characteristics, March 1980 and March 1990

FAX NO. 6174374595

	U.S.		
	1980	1990	
All	13,622	8,898	
Male Female	6,768 . w ' 6,854	4,444 69	
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic	10,223 1,519 1,464 416	6,080 1,068 1,359 391	
Student Not Student	8,467 5,155	5,923 2,975	

	New Engla	and
	1980	1990
All	1,106	696
Male Female	521 585	353 343
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic	1,041 33 23 9	613 17 46 20
Student Not Student	732 374	476

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Number of 16-19 Year Olds in the U.S. and New England, by Selected Characteristics, March 1980 and March 1990 (Numbers in Thousands)

	U.S.				
			% of Total	% of Total	
	1980	1990	1980	1990	
All	162,590	139,117	100.0%	100.0%	
Male	81,010	· 70,005 ;	49.8% 50.2%	50.3	
Female	81,580	69,112	50.28	49.78	
White, non-Hispanic	126,733	98,575	77.9%	70.9%	
Black, non-Hispanic	21,753	21,309	13.4	15.34	
Hispanic	11,004	14,169	6.8%	10.2%	
Other, non-Hispanic	3,100	5,065	1.9%	3.6%	
Student	100,386	92,670	61.7%	66.6%	
Not Student	62,203	46,447	38.3%	33.4%	

	New England % of % of				
	1980	1990	Total 1980	Total	
All	9,513	7,035	100.0%	100.0%	
Male	4,538	3,596	47.7%	51.1%	
Female	4,975	3,439	52.3%	48.9%	
White, non-Hispanic	8,814	6,274	92.7%	89.2%	
Black, non-Hispanic	450	247	4.7%	3.5%	
Hispanic	158	325	1.7%	4.6%	
Other, non-Hispanic	90	188	0.9%	2.7%	
Student	6,350	4,830	66.8%	68.7%	
Not Student	3,163	2,205	33.2%	31.3%	

Table 1: Labor Force Participation Rates of 16-19 Year Olds in the U.S. and New England, by Selected Characteristics, March 1980 and March 1990

	•	•	•
1980	1990	Absolute Change	Percent Change
52.8%	50.8%	-2.0	-3.8%
		-5.3 1.3	-9.4 \$
46.83	_ 45.7%	-1.4 2.1 -1.1	-2.5% 6.3% -2.4%
36.6%	36.3% 37.4% 77.5%	0.7 -1.3	-9.3% 1.9% -1.6%
	56.8% 48.7% 56.9% 33.7% 46.8% 40.0%	52.8\$ 50.8\$ 56.8\$ 51.5\$ 48.7\$ 50.0\$ 56.9\$ 55.5\$ 33.7\$ 35.8\$ 46.8\$ 45.7\$ 40.0\$ 36.3\$	1980 1990 Change 52.8% 50.8% -2.0 56.8% 51.5% -5.3 48.7% 50.0% 1.3 56.9% 55.5% -1.4 33.7% 35.8% 2.1 46.8% 45.7% -1.1 40.0% 36.3% -3.7

	1980	1990	Absolute Change	Percent Change		
All	55.9%	55.0%	-0.9	-1.6%		
Male Female	58.0% 54.0%	54.2% 55.8%	-3.7 1.9	-6.5% 3.4%		
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic	57.5% 34.9% 47.5% 20.5%	56.6% 50.4% 33.7% 46.2%	-0.9 15.5 -13.7 25.7	-1.6% 44.5% -28.9% 125.4%		
Student Not Student	42.9% 81.9%	42.9% 81.5%	0.0	0.0%		

Table 2: Employment/Population Ratios of 16-19 Year Olds in the U.S. and New England, by Selected Characteristics, March 1980 and March 1990

	1980	1990	Absolute Change	Percent Change
All	44.0	43.5%	-0.5	-1.2\$
Male Female	47.5% 40.5%	43.4%	74.1	-8.6% 7.5%
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic	48.6% 21.5% 38.7% 33.3%	48.9% 25.6% 36.9% 32.5%	0.3 4.1 -1.8 -0.8	0.6% 19.0% -4.7% -2.5%
Student Not Student	29.8% 67.0%	31.3% 67.9%	1.5	5.0%

	1980	1990	Absolute Change	Percent Change
All	46.9\$	46.8%	-0.1	-0.1%
Male	47.78	45.0%	-2.7	-5.6%
Female	46.18	48.7%	2.6	5.7%
White, non-Hispanic	48.7%	48.9%	0.1	0.3%
Black, non-Hispanic	21.9%	15.5%	-6.5	-29.4%
Hispanic	33.6%	31.1%	-2.5	-7.5%
Other, non-Hispanic	10.0%	46.2%	36.2	362.8%
Student	35.0%	36.8%	1.8	5.3%
Not Student	70.7% -	68.6%	-2.0	-2.9%

Unemployment Rates of 16-19 Year Olds in the U.S. and New England, by Selected Characteristics, March 1980 and March 1990 Table 3:

	1980	1990	Absolute Change	Percent Change
All	16.6	14.3%	-2.3	-13.78
Male Female	16.3 1 16.9 1	. 15.6% 13.0%	-0.7 -3.9	-4.5 \
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic	14.5% 36.2% 17.5% 16.7%	11.9% 28.6% 19.4%	-2.7 -7.6 2.0 -6.3	-18.4% -21.1% 11.2% -37.5%
Student Not Student	18.8%	16.3% 12.4%	-2.4 -2.6	-13.1% -17.1%

	1980	1990	Absolute Change .	Percent Change	
All .	16.2%	14.9%	-1.2	-7.7%	
Male Female	17.7%	17.0%	-0.7 -1.8	-4.0% -12.6%	
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic	15.2% 37.1% 29.3% 51.3%	13.6% 69.3% 7.9% 0.0%	-1.6 32.2 -21.4 -51.3	-10.5% 86.7% -72.9% -100.0%	
Student Not Student	18.5% 13.7%	14.2% 15.7%	-4.3 2.1	-23.2% 15.0%	

Table 4: Percent of 16-19 Year Olds in the U.S. and New England Who Were Employed at Least One Week During the Year, by Selected Characteristics, 1979 and 1989

	1979	1989	Absolute Change	Percent
All ·	66.44	64.28	-2.2	-3.4%
Male Female	70.6% 62.3%	65.8%	-4.8 0.3	-6.8%
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic	72.1% 42.0% 54.3% 49.2%	71.6% 45.1% 48.3% 45.0%	-0.5 3.1 -6.0 -4.2	-0.7% 7.5% -11.0% -8.5%
Student Not Student	58.4% 79.5%	56.6% 79.4%	-1.8 -0.1	-3.0% -0.1%

	•				
	·1979	1989	Absolute Change	Percent Change	
A11	74.8\$	73.6%	-1.2	-1.6%	
Male	76.2 1	77.6%	1.5	1.9%	
Female	73.5 1	69.4%	-4.1		
White, non-Hispanic	77.0%	75.1%	-1.9	-2.4% 33.6% 24.3% 180.7%	
Black, non-Hispanic	53.8%	71.8%	18.1		
Hispanic	41.8%	52.0%	10.2		
Other, non-Hispanic	22.6%	63.5%	40.9		
Student	68.9%	68.2%	-0.7	-1.0%	
Not Student	86.6%	85.5%	-1.1	-1.3%	

Mean Real Annual Earnings of 16-19 Year Olds in the Table 5: U.S. and New England, by Selected Characteristics, 1979 and 1989 (in 1989 Dollars)

. U.S.

	1979	1989	Absolute Change	Percent Change
All	\$2,848	\$2,270	-578	-20.3%
Male Female	\$3,467	\$2,582	-885	-25.5%
	. \$2,233	\$1,954	-278	-12.5%
White, non-Hispanic	\$3,159	\$2,519	-640	-20.3% 1.1% -14.8% -11.3%
Black, non-Hispanic	\$1,290	\$1,304	14	
Hispanic	\$2,670	\$2,273	-396	
Other, non-Hispanic	\$1,668	\$1,481	-188	
Student	\$1,457	\$1,262	-195	-13.4%
Not Student	\$5,092	\$4,282	-810	-15.9%

	1979	1989	Absolute Change	Percent Change
All	\$2,819	\$3,074	255	9.1%
Male Female	\$3,524 \$2,176	\$3,608 \$2,517	84 341	2.4% 15.7%
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic	\$2,905 \$2,177 \$1,372 \$140	\$3,116 \$1,779 \$3,006 \$3,503	211 -398 1633 3364	7.3% -18.3% 119.0% 2407.1%
Student Not Student	\$1,546 \$5,374	\$2,026 \$5,370	480	31.0%

Table 6: Mean Real Annual Earnings of 16-19 Year Olds in the U.S. and New England Who Were Employed at Least One Week During the Year, by Selected Characteristics, 1979 and 1989 (in 1989 Dollars)

	1979	1989	Absolute Change	Percent Change
All .	\$4,282	\$3,537	74 5	-17.48
Male	\$4,903 ⁻	\$3,925	-979	-20.0\
	\$3,583	\$3,123	-459	-12.8\
White, non-Hispanic	\$4,376	\$3,520	-857	-19.6%
Black, non-Hispanic	\$3,071	\$2,888	-183	-6.0%
Hispanic	\$4,917	\$4,704	-213	-4.3%
Other, non-Hispanic	\$3,394	\$3,289	-105	-3.1%
Student	\$2,497	\$2,230	-267	-10.7%
Not Student	\$6,398	\$5,395	-1003	-15.7%

	•	1979	1989	Absolute Change	Percent Change
All		\$3,767	\$4,178	411	10.9%
Male Female		\$4,620 \$2,961	\$4,647 \$3,628	27 667	0.6% 22.5%
White, non-Hispanic Black, non-Hispanic Hispanic Other, non-Hispanic		\$3,771 \$4,050 \$3,280 \$618	\$4,150 \$2,477 \$5,779 \$5,515	379 -1573 2499 4897	10.1% -38.8% 76.2% 793.0%
Student Not Student		\$2,245 \$6,199	\$2,972 \$6,285	727 86	32.4%

Employment Developments and Massachusetts Vocational Technical Education Programs

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Introduction

The decade of the 1980s was one in which, by most measures, labor market conditions improved considerably in Massachusetts. Substantial job growth and slow labor force growth, resulted in sharp reductions in overall unemployment rates, especially during the second half of the decade. Unemployment rates fell to less than 4% by mid-decade Labor force attachment for most race/ethnic and age groups in the state was reaching all time highs while unemployment rates for most groups fell. after 1984 Teenagers, in particular, faced very favorable labor market conditions in Massachusetts during most of the 1980s. Teen labor force attachment was much higher than the national average, while teen unemployment rates in many years during the decade were less than half the average of all teens in the nation.

During the economic expansion of the 1980s decade, the job content of the state economy changed considerably. Between 1980 and 1989 total nonagricultural employment in the state increased by 451,000 jobs or about 17.0 percent. However, this rate of job growth was not the same across all major industry sectors. While a number of industry sectors grew at very rapid rates, others grew more slowly, or actually declined. Findings in Table 1 examine trends in employment by major industry sector between 1980 and 1989. These data reveal sharp employment increases in the private services and construction industries. Nearly two-thirds (62.8%) of all net new jobs created in Massachusetts were located in the private service industry. Employment in the service industry grew by 45.8% over the period, a rate of growth in excess of 5% per year. Private services in Massachusetts are heavily concentrated in business, education, health, engineering and management, social and legal services and employ large proportions of professional, technical, and managerial workers.

Employment in the construction sector grew at an extraordinary pace during the 1980s. Total construction payroll employment increased by 49,400 jobs or 63.8%. An annual rate of change of more than 7% per year. Construction industries employ high shares of blue collar workers and were important sources of jobs for a number of Chapter 74 voc-tech programs during the 1980s.

While most sectors of the state economy grew during the 1980s, the state's manufacturing sector suffered substantial job loss. As the state moved toward full employment manufacturing sector payroll employment declined by 112,000 jobs. A substantial proportion of this manufacturing job loss was in the state's high technology sector. Thus, the job content of the state economy changed considerably over the decade. (See Table 3). Growth was concentrated in white collar service industries, while employment opportunities in the blue collar manufacturing sector diminished.

Recent Employment Developments

Since the beginning of 1989 the state's economy has been undergoing a substantial employment downturn. As the data in Table 2 reveal, payroll employment between January 1989 and January 1991 declined by almost 229,000 jobs.

Every major industrial sector in the state experienced job loss. Especially, hard hit was the state's construction sector, where employment declined by 45,100 jobs over the two year period, a relative decline of 37.2 percent. The blue collar worker dominated manufacturing sector continued it's longer term downward trend losing an additional 71,400 jobs between January 1989 and January 1991. The wholesale and retail trade sector also experienced large absolute and relative employment declines.

The white collar dominated services and finance, insurance, and real estate sectors were comparatively insulated from these economic reversals. In fact, overall service employment declined by only 4,900 jobs during the period, a rate of decline of just over one-half of one percent. The non-hospital health service industry, however, including nursing homes and offices of physicians and dentists actually registered strong employment gains. Unfortunately, the non-hospital health industry is among the last remaining growth industries in the state.

The data in Table 2 reveal quite clearly the dramatic reversal in the economic fortune of the state. The ability of job seekers to successfully become employed has diminished proportionately. Those programs with strong industry linkages and effective job placement and follow-up efforts will have the advantage in this type of labor market.

Labor Market Conditions by Program Area

Tables 4 through 17 provide historical and projected employment data for those industries that are major employers of graduates from selected program areas. The 14 programs included in this set of tables account for 75 percent of all Chapter 74 enrollments. The most recent employment data are provided for each industry, and illustrate recent employment developments among key industries that employ graduates from the relevant program area.

Information on projected industry employment from both the state and national industry employment projections programs are also provided. Taken together these three data bases can lend insight into recent and anticipated labor, market conditions for each of the 14 program areas included in this report.

Table 1:

Trends in Non-Agricultural Wage and Salary
Employment in Massachusetts by

Industrial Sector, 1980-1989 (Data in Thousands)

Industry Sector	<u>1980</u>	<u>1989</u>	Absolute Change	Relative Change
Total	2652.2	3103.4	451.2	17.0%
Construction .	77.4	126.8	49.4	63.8
Manufacturing	673.3	561.1	-112.2	-16.7
Transportation, Communication & Utilities	121.6	128.3	6.7	5.5
Trade	576.6	740.5	163.9	28.4
Finance, Insurance & Real Estate	159.0	217.3	58.3	36.7
Services	634.0	924.1	290.1	45.8
Government	410.3	403.6	-6.7	-1.6

Source: Massachusetts Department of Employment and Training.

Trends in Non-Agricultural Wage and Salary
Employment in Massachusetts by Industrial Sector
January 1989 - January 1991
(Data in Thousands)

Table 2:

Industry Sector	January 1989	January 1991	Absolute Change	Relative Change
Total	3076.2	2847.6	-228.6	-7.4%
Construction	121.3	76.2	-45.1	-37.2
Manufacturing	573.0	501.6	-71.4	-12.5
Transportation, Communication & Utilities	131.0	124.1	· -6. 9	-5.3
Wholesale Trade	182.2	166.9	-15.3	-8.4
Retail Trade	555.6	499.5	-56.1	-10.1
Finance, Insurance & Real Estate	216.1	210.2	-5.9	-2.7
Services	887.1	882.2	-4.9	-0.6
Government	408.4	385.7	-22.7	-5.6

Source: Massachusetts Department of Employment and Training.

Table 3:

Distribution of Non-Agricultural Wage and Salary Employment Industrial Sector January 980 - January 1991

Share of Total Employment

Industry Sector	January <u>1980</u>	January 1991
Total	100.0%	100.0%
Construction	-2.6	2.7
Manufacturing	26.2	17.6
Transportation, Communication & Utilities	4.6	4.4
Trade	21.6	23.4
Finance, Insurance & Real Estate	6.0	7.4
Services	23.2	31.0
Government	15.8	13.5

Source: Massachusetts Department of Employment and Training.

Table 4:

General Marketing

Key Industry Employers

Share of Enrollments = 14.7%

531 Department Stores

731 Advertising Services

737 Computer & Data Processing Services

Recent Employment Developments

SIC	<u>1988 II</u>	<u>1989 II</u>	Absolute Change	Relative Change	<u>1989 II</u>	<u>1990 II</u>	Absolute Change	Relative Change
531 731 737	46,771 5.281 36,400	47,518 5,400 38,495	747 119 2,095	1.6 2.3 5.8	47,518 5,400 38,495	44,676 4,573 40,128	-2,842 -827 1,633	-6.0 -15.3 4.2
	88,452	91,413	2,961	3.3				

Projected State Employment Developments

SIC	<u>1987</u>	2000	Absolute Change	Relative Change
531	55,640	60,380	4,740	8.5
731	4,890	6,590	1,700	34.8
737	36,710	73,120	36,410	99.2

Projected National Employment Developments

SIC	<u>1988</u>	2000	Absolute <u>Change</u>	Relative Change
531	2,039,000	2,344,000	305,000	15.0
731	237,000	330,000	93,000	3 9.2
737	678,000	1,200,000	522,000	77.0

Sources for Data on Tables 4-17: Massachusetts Department of Employment and Training; Massachusetts Department of Education; U.s. Department of Labor, Bureau of Labor Statistics.

Table 5:

Food Management

Key Industry Employers

Share of Enrollments = 6.0%

581 Eating & Drinking Places

701 Hotels & Motels

805 Nursing & Personal Care Facilities

806 Hospitals

822 Colleges & Universities

Recent Employment Developments

SIC	<u>1988 II</u>	<u>1989 II</u>	Absolute Change	Relative Change	<u>1989 II</u>	<u>1990 II</u>	Absolute Change	Relative Change
581 701	177,116 34,724	178,877 35,816	1,761 1,092	1.0 3.1	178,877 35.816	172,275 34,296	-6,602 -1,520	-3.7 -4.2
805	49,840	52,469	2,629	5.3	52,469	56,550	4,081	7.8
806	126,030	127,653	1,623	1.3	127,653	128,671	1,018	0.8
822	65,427	70,514	5,087	7.7	70,514	71,550	1,036	1.5

Projected State Employment Developments

SIC	<u>1987</u>	2000	Absolute <u>Change</u>	Relative Change
581	174,970	214,620	39,650	22.7
701	33,730	41,640	7,910	23.5
805	49,730	66,030	16,300	32.8
806	123,790	136,750	12,960	10.5
822	85,700	81,170	-4,530	-5.3

SIC	<u>1988</u>	2000	Absolute Change	Relative Change
581	6,252,000	779,600	1,544,000	24.6
701	1,550,000	1,960,000	410,000	26.5
805	1,319,000	1,907,000	580,000	44.6
806	3,300,000	4,245,000	945,000	28.6
822	NA			

Table 6:

Cosmetology

Key Industry Employers

Share of Enrollments = 4.6%

531 Department Stores723 Beauty Shops724 Barber Shops

Recent Employment Developments

SIC	<u>1988 II</u>	<u>1989 II</u>	_	Relative Change	1989 II	1990 II	Absolute Change	Relative Change
531	46,771	47,518	747	1.6	47,518	44,676	-2,842	-6.0
723	11,652	11,786	134	1.2	11,86	11,698	-88	-0.7
724	348	477	129	37.1	477	501	24	5.0

Projected State Employment Developments

SIC	<u>1987</u>	2000	Absolute <u>Change</u>	Relative Change
531 723/	55,640	60,380	4,740	8.5
724	11,840	14,710	2,870	24.2

SIC	<u>1988</u>	2000	Absolute Change	Relative Change
531 723/	2,039,000	2,344,000	305,000	15.0
724	382,000	435,000	53,000	13.9

Table 7:

Graphic & Printing Communication

Key Industry Employers

Share of Enrollments = 4.5%

27 Printing & Publishing

731 Advertising

733 Mail, Reproduction Services

Recent Employment Developments

SIC	<u>1988 II</u>	<u>1989 II</u>	Absolute Change	Relative Change	1989 II	<u>1990 II</u>	Absolute Change	Relative Change
27 731 733	NA 5,281 6,956	5,400 6,841	119 -115	2.3 -1.7	5,400 6,841	4,573 . 6,898	-827 57	-15.3 0.8

Projected State Employment Developments

1987	2000	Absolute <u>Change</u>	Relative Change
55,590	63,460	7,870	14.2
4,890 6,760	6,590 8,920	1,700 2,160	34.8 32.0
	55,590 4,890	55,590 63,460 4,890 6,590	19872000Change55,59063,4607,8704,8906,5901,700

SIC	<u>1988</u>	2000	Absolute Change	Relative Change
27	1,562,000	1,751,000	189,000	12.1
731	237,000	330,000	93,000	39.2
733	188,000	241,000	53,000	28.2

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Table 8:

Computer Programming

Key Industry Employers

Share of Enrollments = 4.4%

357 Computer & Office Equipment Manufacturing

367 Electronics Components Manufacturing

631 Life Insurance

737 Computer & Data Processing Services

822 Colleges & Universities

Recent Employment Developments

SIC	<u>1988 II</u>	<u>1989 II</u>	Absolute Change	Relative Change	<u>1989 II</u>	<u>1990 II</u>	Absolute Change	Relative Change
357	54,276	53,021	-1,255	-2.3	53,021	45,568	-7,453	-14.1
367	38,907	37,240	-1,667	-4.3	37,240	33,241	-3,999	-10.7
631	27,657	29,344	1,687	6.1	29,344	29,446	102	0.3
737	36,400	38,495	2,095	5.8	38,495	40,128	1,633	4.2
822	65,427	70,514	5,087	7.8	70,514	71,550	1,036	1.5

Projected State Employment Developments

<u>1987</u>	2000	Absolute Change	Relative Change
55,560 42,030 NA	69,650 46,260	14,090 4,230	25.4 10.1
36710 85,700	73,120 81,10	36,410 -4,530	99.2 -5.3
	55,560 42,030 NA 36710	55,560 69,650 42,030 46,260 NA 36710 73,120	1987 2000 Change 55,560 69,650 14,090 42,030 46,260 4,230 NA 36710 73,120 36,410

SIC	<u>1988</u>	2000	Absolute Change	Relative Change
357	474,000	496,000	22,000	4.6
367	635,006	676,000	41,000	6.5
631	NA			
737	678,000	1,200,000	522,000	80.0
822	NA	*		

Table 9:

Community Health

Key Industry Employers

Share of Enrollments = 2.2%

808 Home Health Care Services

Recent Employment Developments

	<u>1988 II</u>	<u>1989 II</u>	Absolute Change		<u>1989 II</u>	<u>1990 II</u>	Absolute Change	
808	8,759	9,507	748	8.5	9,507	11,066	1,559	16.4

Projected State Employment Developments

	<u>1987</u>	2000	Absolute <u>Change</u>	Relative <u>Change</u>
808	10,490	19,540	9,050	86.3

	<u>1988</u>	2000	Absolute <u>Change</u>	Relative Change
808	675,000	1,177,000	502,000	74.3

Table 10:

Carpentry

Key Industry Employers

Share of Enrollments = 8.0%

152 Residential Building Construction

154 NonResidential Building Construction

175 Carpentry and Floorwork

Recent Employment Developments

SIC	<u>1988 II</u>	<u>1989 II</u>	Absolute Change	Relative Change	<u>1989 II</u>	<u>1990 II</u>	Absolute Change	Relative Change
152	30,548	22,408	-8,140	-26.6	22,408	15,843	-6,565	-29.3
154	13,552	13,122	-430	-3.2	13,122	11,772	-1,350	-10.3
175	6.729	6,339	-390	-5.8	6,339	4.785	-1,554	-24.5

Projected State Employment Developments

SIC	1987	2000	Absolute Change	Relative Change
152 154 175	NA NA NA			
Construct Sector	137,240	181,050	43,810	31.9

SIC	<u>1987</u>	2000	Absolute <u>Change</u>	Relative Change
152	NA			
154	NA			
175	NA			
Constru	ection	•		
Sector	5,123,000	5,885,000	760,000	+14.8

Table 11:

Electrician

Key Industry Employers

Share of Enrollments = 6.9%

173 Construction Electrical Work822 Colleges & Universities

Recent Employment Developments

	1988 II	<u>1989 II</u>	Absolute Change	Relative Change	<u>1989 II</u>	<u>1990 II</u>	Absolute Change	Relative Change
173	18,749	18,523	-226	-1.2	18,523	14,707	-3,816	-20.6
822	65,427	70,514	5,087	7.8	70.514	71,440	1,036	1.5

Projected State Employment Developments

	<u>1987</u>	2000	<u>Change</u>	Change :
173 822	NA 85,700	81,170	-4,530	-5.3
Construct Sector	137,240	181,050	43,810	31.9

	1988	2000	Absolute <u>Change</u>	Relative <u>Change</u>
173	NA			·
822	NA			
Constr	uction			
Sector	5,125,000	5,885,000	760,000	14.8

Table 12:

Plumbing & Pipefitter

Key Industry Employers

Share of Enrollments = 2.4%

171 Plumbing, Heating, & Air Conditioning

179 Misc. Special Trade Construction

Recent Employment Developments

	<u>1988 II</u>	<u>1989 II</u>	Absolute Change	Relative Change	<u>1989 II</u>	1990 II	Absolute Change	Relative Change
171	17,239	16,607	-632	-3.7	16,607	13,364	-3,243	-19.5
179	17,962	16,023	-1,939	-10.8	16,023	13,756	-2,267	-14.1

Projected State Employment Developments

	<u>1987</u>	2000	Absolute <u>Change</u>	Relative Change
171 179	. NA NA			
Construc	• • • •			
Sector	137,240	181,050	43,810	31.9

<u>1988</u>	2000	Absolute Change	Relative Change
171 NA 179 NA Construction	Ť		
Sector 5,125,000	5,885,000	760,000	14.8

Table 13:

Auto Mechanics

Key Industry Employers

Share of Enrollments = 7.0%

551 New & Used Car Dealers

553 Auto & Home Supply Stores .

554 Gasoline Service Stations

753 Automotive Repair Shops

Recent Employment Developments

SIC	<u>1988 II</u>	<u>1989 II</u>	Absolute Change	Relative Change	<u>1989 II</u>	<u>1990 II</u>	Absolute Change	Relative Change
551	26,170	24,085	-2,085	-8.0	24,085	21,354	-2,731	-11.3
553	6,274	6,409	135	2.2	6,409	5,984	-425	-6.6
554	15,928	15,969	41	1.0	15,969	14,372	-1,597	-10.0
753	14,182	13,941	-241	-1.7	13,941	13,247	-694	-5.0

Projected State Employment Developments

SIC	<u>1987</u>	2000	Absolute <u>Change</u>	Relative Change
551-4	51,270	54,290	3,020	5.9
753	22,490	28,780	6,290	28.0

SIC	<u>1988</u>	2000	Absolute Change	Relative Change
551-4	1,688,000	2,282,000	594,000	35.2

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Table 14:

Auto Body Repair

Key Industry Employers

Share of Enrollments = 3.2%

551 New & Used Car Dealers753 Automotive Repair Shops

Recent Employment Developments

	<u>1988 II</u>	1989 II	Absolute Change	Relative Change	<u>1989 II</u>	1990 II	Absolute Change	Relative Change
551	26,170	24,085	-2,085	-8.0	24,085	21,354	-2,731	-11.3
753	14,182	13,941	-241	-1.7	13,941	13,247	-694	-5.0

Projected State Employment Developments

	<u>1987</u>	2000	Absolute <u>Change</u>	Relative Change
551	51,270	54,290	3,020	5.9
753	22,490	28,780	6,290	28.0

	<u>1988</u>	2000	Absolute Change	Relative <u>Change</u>
551 753	1,027,000 NA	1,181,000	154	15.0

Table 15:

Machine Tool/Shop

Key Industry Employers

Share of Enrollments = 4.3%

342 Cutlery & Handtool Manufacturing

346 Metal Forging Manufacturing

354 Metalworking Machinery Manufacturing

359 Industrial Machinery Manufacturing

367 Electronic Components Manufacturing

Recent Employment Developments

SIC	<u>1988 II</u>	<u>1989 II</u>	Absolute Change	Relative Change	<u>1989 II</u>	<u>1990 II</u>	Absolute <u>Change</u>	Relative Change
342	9,076	8,174	-902	-9.9	8,174	8,626	452	5.5
346	4,542	4,994	452	10.0	4,994	4,794	-200	-4.0
354	13,592	12,021	-1,571	-11.6	12,021	10,677	-1,344	-11.2
359	8,186	9,319	1,133	13.8	9,319	8,422	-897	-9.6
367	38,303	71,746	-2,555	-3.4	71746	65,7600	-5,986	-8.3

Projected State Employment Developments

SIC	<u>1987</u>	2000	Absolute <u>Change</u>	Relative Change
342 346	NA NA			
354	12,830	10,530	-2,300	-17.9
359	14,540	13,240	-1,300	-8.9
367	42,030	46,260	4,230	10.1

SIC	<u>1988</u>	2000	Absolute Change	Relative Change
342	139,000	121,000	-18,000	-12.9
346	229,000	208,000	-21,000	-9. 5
354	314,000	298,000	,-16,000	-5.0
359	264,000	251,000	-13,000	· -4.9
367	635,000	676,000	41,000	6.5

Table 16:

Drafting

Key Industry Employers

Share of Enrollments = 3.4%

366 Communications Equipment Manufacturing 871 Engineering & Architectural Services

Recent Employment Developments

SIC	1988 II	<u>1989 II</u>		Relative Change	1989 II	<u>1990 II</u>	Absolute Change	Relative Change
36 6 87 1	23,934 31,465	19,409 31,948	-4,525 483	-18.9 1.5	19,409 31,948	18,477 29,155	-932 - 2,793	-4.8 -8.7

Projected State Employment Developments

SIC	<u>1987</u>	_ 2000	Absolute <u>Change</u>	Relative Change
36 6 87 1	42,030	46,260	4,230	10.1
	30,340	40,140	9,800	32.3

	<u>1988</u>	2000	Absolute <u>Change</u>	Relative Change
366	567,000	547,000	-20,000	-3.5
871	724,000	946,000	222,000	30.7

Electrical Technology

Key Industry Employers

Share of Enrollments = 4.5%

357 Computer & Office Equipment Manufacturing

366 Communications Equipment Manufacturing

367 Electronic Components Manufacturing

508 Machinery, Equipment & Wholesaling

737 Computer & Data Processing Services

Recent Employment Developments

SIC	<u>1988 II</u>	<u>1989 II</u>	Absolute Change	Relative Change	1989 II	1990 II	Absolute Change	Relative Change
357	54,276	53,021	-1,255	-2.3	53,021	45,568	-7,453	-14.1
366	23,934	19,409	-4,525	-18.9	19,409	18,477	-932	-4.8
367	38,907	37,240	-1,667	-4.3	37,240	33,240	-3,999	-10.7
508	16,466	16,784	318	1.9	16,784	14,484	-2,300	-13.7
737	36,400	38,495	2,095	5.8	38,495	40,128	1,633	4.2

Projected State Employment Developments

SIC	<u>1987</u>	2000	Absolute Change	Relative Change
3 57	55,560	69,650	14,090	25.4
36 6	41,090	44,810	3,720	9.1
367	42,030	46,260	4,230	10.1
508	45,280	65,510	20,230	44.7
737	36,710	73,120	36.410	99.2

SIC	<u>1988</u>	2000	Absolute Change	Relative <u>Change</u>
357	474,000	496,000	22,000	4.6
3 66	567,000	547,000	-20,000	-3.5
367	635,000	676,000	41,000	6.5
50 8	1,516,000	1,820,000	304,000	20.0
737	678,000	1,200,000	522,000	- 80.0

STATEWIDE DEMAND LIST

	IVE OCCUPATIONS	TRADE AND INDUSTRY			
08.0401	Financial Services Marketing	47.0201	Heating, Air Conditioning		
08.0708	General Marketing		and Refrigeration Mech.		
06.0702	Recreational Enterp. Mgmt.	47.0604	Automotive Mechanics		
		47.0102	Business Machine Repair		
		46.0201	Carpentry		
HEALTH OC		47.0302	Heavy Equipment Maintenance		
17.0101	Dental Assisting		and Repair		
17.0102	Dental Hygiene	46.0102	Brick, Block & Stone Masonry		
17. 0103	Dental Laboratory Technology	46.0501	Plumbing and Pipefitting		
17.0309	Medical Laboratory Technology	48.0101	Drafting, General		
18.1101	Nursing, General (A.D.)	46.0302	Electrician		
17.0605	Practical Nursing	47.0101	Electronic Equip. Repair		
17.0602	Nursing Assistant	48.0201	Graphic & Printing Comm.		
17.0211	Surgical Technology		· ·		
17.0208	Radiologic (Medical) Technology				
17.0818	Respiratory Therapist				
17.0508	Physician Assisting		·		
17.0402	Community Health Work				
17.0506	Medical Record Technology				
		TECHNOLOG	<u> </u>		
CONSUMER A	AND HOMEMAKING	15.0303	Electronic Technology		
20.0401	Food Management Production	15.0403	Electromechanical Tech.		
and	l Services	15.0805	Mechanical Design Tech.		
2 0.0402	Baking	11.0201	Computer Programmer		
20.0403	Chef/Cook .				
			•		
BUSINESS A	ND OFFICE .				
07.0101	Accounting, Bkpg. & Related				
07.0302	Bus. Computer/Console Operator				
07.0701	Typing, Gen. Office & Rel.				
07.0601	Secretarial and Related				

